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FOREWORD

THE purpose of the QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY is to present promptly brief abstracts, noncritical in character, of the more significant articles in the periodical medical literature of Europe and the Americas.

For readier reference, the abstracts are classified under the following general headings:

PSYCHIATRY

1. Administrative Psychiatry and Legal Aspects of Psychiatry
2. Alcoholism and Drug Addiction
3. Biochemical, Endocrinologic and Metabolic Aspects
4. Clinical Psychiatry
5. Geriatrics
6. Heredity, Eugenics and Constitution
7. Industrial Psychiatry
8. Psychiatry of Childhood
9. Psychiatry and General Medicine
10. Psychiatric Nursing, Social Work and Mental Hygiene
11. Psychoanalysis
12. Psychologic Methods
13. Psychopathology
14. Treatment
    - *a. General Psychiatric Therapy*
    - *b. Drug Therapies*
    - *c. Psychotherapy*
    - *d. The "Shock" Therapies*

NEUROLOGY

1. Clinical Neurology
2. Anatomy and Physiology of the Nervous System
3. Cerebrospinal Fluid
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5. Degenerative Diseases of the Nervous System
6. Diseases and Injuries of the Spinal Cord and Peripheral Nerves
7. Electroencephalography
8. Head Injuries
9. Infectious and Toxic Diseases of the Nervous System
10. Intracranial Tumors
11. Neuropathology
12. Neuroradiology
13. Syphilis of the Nervous System
14. Treatment
15. Book Reviews
16. Notes and Announcements

In fields which are developing as rapidly as are psychiatry and neurology, it is obviously impossible to abstract *all* the articles published—nor would that be desirable, since some of them are of very limited interest or ephemeral in character. The Editorial Board endeavors to select those which appear to make substantial contribution to psychiatric and neurologic knowledge and which promise to be of some general interest to the readers of the REVIEW. Some articles, highly specialized in character or concerning a subject already dealt with in an abstract, may be referred to by title only at the end of the respective sections.

The Editorial Board will at all times welcome the suggestions and criticisms of the readers of the REVIEW.

WINFRED OVERHOLSER, M.D.
Editor-in-Chief

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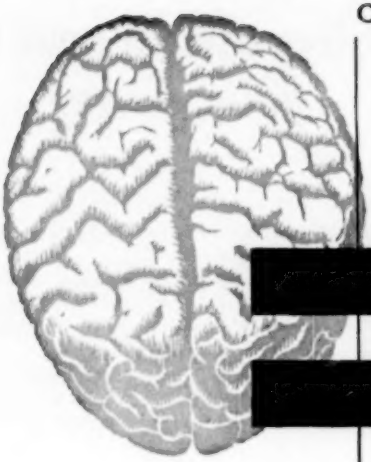

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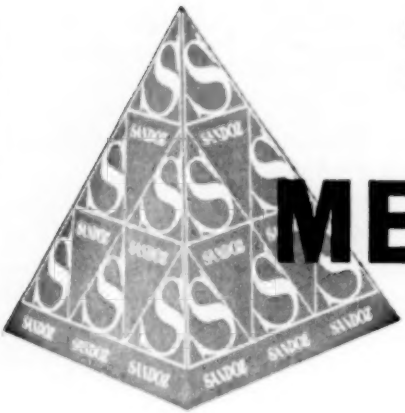

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PSYCHIATRY and NEUROLOGY

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PSYCHIATRY

1. Administrative Psychiatry and Legal Aspects of Psychiatry

The Twenty-Second Maudsley Lecture: Psychiatry in the Criminal Courts. *Claud Mullins.* J. Ment. Sc. 95: 263-74, April 1949.

Although judicial anger at deeds of great evil may at times be justifiable, there can be no tolerance for such anger at the time of passing sentence. One of the chief weaknesses of the British criminal system is that of passing sentence within a few minutes following a decision of guilt. The court usually gains its impression of the accused by watching him during the trial. Apparent truculence on his part may then be only a "reaction character trait." Unless ample time for inquiry is allowed following the verdict, the opportunity for psychiatric assistance between the verdict and sentence is limited. The offender has then no time to realize the harm perpetrated to the community and to himself and is unable, therefore, to realize the justice of his sentence. Wise punishment understood as such by the delinquent may start him on the road to rehabilitation. Sentences are often fixed to fit the crime rather than the criminal. Certain types of crime such as sex crimes and arson are indications for psychiatric treatment. The author believes that many first offenders and most second or third offenders should be subjected to psychiatric examination and treatment either on probation, in prison or in some institution. Statistics are cited to show that criminal courts in Britain are not successfully separating cases in need of treatment from those requiring punishment. Probation with psychotherapy has proved very efficient in the handling of exhibitionists. With the present antiquated methods the criminal courts cannot protect the public adequately. Prisons are over-crowded. Parliament does not provide an adequate criminal law and procedure, and the courts fail in not making use of scientific help. From the moment of arrest to the time of verdict and passing of sentence, it is the right and duty of psychiatrists to investigate the present procedure. Psychologic investigation of what the policeman says to the suspect, the manner of reading the charge to him, and the methods of the court in dealing with him,

as well as of the construction of the court, are needed. The whole criminal procedure should be examined thoroughly by psychiatrists, preferably of different schools. The latter should also examine the duties of the police, offer recommendations for a better selection of magistrates, the position of experts evaluating the mental state of the accused, as well as the practical working of the law of evidence, the extent to which it can be used to suppress facts, the fitness of the jury to decide questions of self-responsibility, and whether the issue of insanity should not be decided by experts before the trial takes place. The possibility is suggested of placing courts, in some cases, under the obligation, when guilt has been proved, of obtaining social and psychiatric reports. This would help to extend the time between verdict and the passing of the sentence. As constructive treatment progresses, and the use of penal punishment becomes less frequent, criminals will be more likely to admit their offenses. The offenders might then realize that their acquittal would be contrary to their own interests. Thus the public would receive greater protection.

Narcoanalysis from the Medicolegal Point of View (*La narco-analyse au point de vue médico-légal*). *Georges Guillain.* Bull. de l'Acad. nat. de méd. 113: 260-67, March 22, 1949.

This paper presents a brief review of the history of the use of various drugs to obtain narcosis in the investigation of criminals, and contrasts these methods with the use of the barbiturates for narcoanalysis or, better, narcopsychoanalysis, as a method of psychotherapy. As a method of psychotherapy in trained hands, it is of definite value. But in medicolegal affairs, as a method of the investigation of criminals, it has not proved of value, and from the legal point of view it violates the rights of those accused of crime. In closing the discussion Lhermitte requested that the Académie nationale de médecin adopt a resolution condemning the use of narcoanalysis in legal medicine. 15 references.

Criminal Responsibility in Incipient Psychosis. *F. M. G. Prendergast, Perth, Australia.* M. J. Australia 1: 447-49, April 2, 1949.

As jurists become more familiar with the principles of abnormal psychology, more cases of early mental disorder are being referred for assessment of their criminal responsibility. This is most desirable but is increasing the complexity of the psychiatrist's task. The difficulty of differentiating the early psychotic delinquent from the psychopath and the malingerer should never be under-estimated. A careful check of the subsequent history of these cases will often show that the initial diagnosis was incorrect. In arriving at a diagnosis, the psychiatrist must rely very largely on his clinical acumen since special diagnostic procedures have as yet only a limited practical application in such cases.

In a substantial majority of cases where a "black-out" is advanced as the explanation of a criminal action it is not the genuine explanation. The abuse of the "black-out" as a defense for crime is the greatest danger with which psychiatry, from the medicolegal standpoint, is confronted at

the present time. Existing arrangements whereby border-line delinquents must be placed either in a mental hospital or prison are unsatisfactory. There is definite need for the establishment of a psychiatric division along the lines described by Norwood East as part of every prison department. This would facilitate a more satisfactory investigation and supervision of delinquents in whom psychologic maladjustments were suspected.

2. Alcoholism and Drug Addiction

Present Day Status of Medical-Psychological Aspects of Alcoholism. *Robert V. Seliger, Neuropsychiatric Institute of Baltimore, Baltimore, Md.* Mental Hygiene 33: 570-76, Oct. 1949.

The problem of alcoholism has become more important to both medicine and psychiatry, there being today about three-quarters of a million alcoholic patients and over three million heavy drinkers in this country. Alcoholism is usually a symptom of emotional illness and must be distinguished from social drinking. Heavy social and daytime drinking, however, require better understanding, as they produce absenteeism, inefficiency, and costly errors of judgment. Alcoholism may develop as the result of many factors but the alcoholic patient is a sick person who requires competent psychiatric treatment.

Acutely intoxicated persons, of course, require immediate appropriate treatment but nonacutely intoxicated patients should be given a psychiatric examination at the first interview. Evaluation of the personality structure and intellectual resources is done and other laboratory tests, such as brain-wave tracings, made as indicated. The Rorschach ink-blot analysis is especially helpful as it reveals definite personality traits and tendencies of which the patient himself may be unaware. Both patient and family should be told at the beginning of psychiatric treatment that total abstinence is part of the goal. Treatment of alcoholism is not an exact science. Complete confidence of the patient must be won and this is only possible if the psychiatrist is plastic, tolerant and careful to avoid a dictatorial manner. Experience has shown that, generally speaking, neither psychoanalysis, hypnosis, hypnoanalysis, narcoanalysis, nor the assaultive chemical, drug and other therapies, are adequate treatment alone. Especially trained psychiatrists are needed. The ideal environment for treatment is a farm. The attitude of the patient's mate is especially important. Discussion of specific situation problems is indicated to aid the patient in understanding himself and developing emotional maturity.

Successful results of treatment are obtained by careful selection of patients, controlled vitamin and insulin therapy with sedation as indicated, formal psychotherapy with emotional re-education, suggestive influences, interviews with the mate and near relatives, and continuous follow-up. In spite of conferences, knowledge and personal experience, little will be accomplished unless it is realized that this psycho-socio-biologic illness is visually comparable to cancer. 0 references.

The Treatment of Delirium Tremens. *James A. Wallace, Memphis, Tenn.* New Orleans M. & S. J. 102: 77-8, Aug. 1949.

Delirium tremens usually occurs in chronic alcoholics after prolonged periods of excessive drinking and poor intake of food. Infection or trauma may precipitate this psychosis. Observation of such patients at a private psychiatric hospital revealed the visual hallucinations to be more often of humans than of animals, although the latter are usually described. Patients with delirium tremens have responded well to the following treatment measures: 1) abrupt withdrawal of alcohol; 2) avoidance of restraint; 3) paraldehyde as the sedative of choice; 4) continuous baths; 5) digitalis; 6) intravenous injection of 1000 cc. of 50% glucose with 25 units of insulin and 100 mg. of thiamine chloride; 7) adequate fluid intake; 8) saline catharsis, and 9) maintenance of a high caloric diet with continued use of large doses of vitamins.—*Author's abstract.*

Death Due to Cardiac Disease Following the Use of Emetine Hydrochloride in Conditioned-Reflex Treatment of Chronic Alcoholism. *Egon E. Kattwinkel, Newton-Wellesley Hospital, West Newton, Mass.* New England J. Med. 240: 995-97, June 23, 1949.

A case is reported of fatal results following a series of 10 emetine injections for the conditioned-reflex treatment of chronic alcoholism in a 33-year-old man. The patient received 0.06 Gm. of emetine hydrochloride intramuscularly daily for four consecutive days, rested a day, and received 0.09 Gm. daily for five consecutive days, a total of 0.75 Gm. He developed diarrhea after the fifth injection, followed by fatigue, dyspnea, weakness, trembling, and a pounding rapid heart rate. These symptoms were attributed to nervousness and the emetine was continued. Physical examination showed the patient to be acutely ill, with pulse 140, pronounced gallop rhythm, blood pressure 70/60, pulmonary and hepatic engorgement, and hyperactive reflexes. Oxygen, 50% glucose, sedation and salt-free diet were given immediately. Electrocardiogram indicated extensive myocardial damage. A diagnosis of toxic myocarditis from emetine was made the following day and thiamin chloride, 50 mg., was given intramuscularly, followed by 50 cc. of 50% glucose, digitalis and fluids. The lungs cleared and the blood pressure became 80/60 but marked dyspnea continued in spite of 100% oxygen inhalation. He showed signs of peripheral shock the next morning and died that night.

Cardiac damage from emetine has been demonstrated frequently. Toxic manifestations may occur with any dosage, depending upon individual susceptibility. Adequate rest periods between courses of treatment are essential as the drug has been shown to be cumulative in the myocardium. Prevention is extremely important as there is no specific treatment. Management consists of the usual measures for cardiac failure, including the judicious use of digitalis and quinidine, and symptomatic treatment.

The following rules are suggested as the minimum requirements governing the use of emetine in the conditioned-reflex treatment of chronic alcoholism. An electrocardiogram should be taken before, during, and one or two weeks after treatment, the drug being contraindicated by any suspected organic heart disease. The total dose of emetine should not exceed 0.6 Gm. in any one course and at least two months rest should be given between courses if the patient develops any electrocardiographic changes during treatment. The drug should be stopped immediately if significant electrocardiographic changes occur. Constant vigilance for developing signs of toxicity should be exercised and the heart should be watched carefully if any occur. Treatment must be stopped at least temporarily in the presence of an increasing tachycardia. The pathologic changes are reversible as the prognosis is good if symptoms of early cardiac trouble are heeded. 9 references. 2 figures.

Treatment of Chronic Alcoholism With Apomorphine (*Le traitement de l'alcoolisme chronique par l'apomorphine*). *G. de Morsier and H. Feldman, Geneva, Switzerland.* Rev. méd. Suisse rom. 69: 417-39, July 25, 1949.

This paper reports the treatment of 250 chronic alcoholic patients with apomorphine in the last two years. Results are reported only for the first 100 patients of this series, who have been under observation for at least six months. The treatment is carried out as follows: after a complete physical and psychiatric examination, the patient is isolated and given the alcoholic liquors to which he is accustomed, but no food. As soon as the patient shows any degree of euphoria due to the alcoholic beverages taken, a subcutaneous injection of 6 mg. of apomorphine is given. This usually causes nausea and vomiting within a few minutes. When this subsides, the patient is still encouraged to drink as much as possible. Two to four hours later a second injection of 6 mg. of apomorphine is given; if the patient still continues to drink considerable amounts of liquor, a third injection of 6 mg. is given, but if he takes only a little liquor, the third dose of apomorphine is 4 mg. Then 4 mg. are given every two hours, day and night. If by the second day the patient refuses to drink, the dose of apomorphine may be reduced to 2 mg., but treatment is continued for at least eight hours after the patient has refused to drink more liquor; when nausea or vomiting occur as soon as a glass of liquor is offered, the treatment is stopped. A dose of 10 units of insulin is then injected and an hour later sweetened tea is given. Later in the day, a normal meal is served, which the patient usually eats with good appetite. As a rule, the apomorphine treatment is not required for more than two days, occasionally three or four days, only exceptionally for a longer period.

Following this, psychotherapy is useful, especially a study of the psychologic factors that caused the alcoholism, and an attempt is made to aid the patient in solving any such conflicts. Any of the nervous or gastro-intestinal conditions that may have been caused by the alcoholism,

such as polyneuritis or gastritis, are also treated by the therapeutic measures indicated. Before discharge from the hospital, the patient is directed to return for further treatment if there is any recurrence.

In the 100 cases reported, 47 were cured after one course of treatment, 7 after two courses of treatment and one after three courses, a total of 55 patients cured; in one case the treatment was not completed, and in 44 cases there was a recurrence after one or two courses of treatment. The results were best in patients who were not kept under any restraint after discharge from the hospital and in those who were given adequate psychotherapy. 23 references.

Tetraethylthiuramdisulphide in the Treatment of Alcoholics. *A. E. Carver.* Brit. M. J. 4625: 466-68, Aug. 27, 1949.

Tetraethylthiuramdisulphide is not yet available for general use but a preliminary report of its trial use in the treatment of alcoholics is presented. It is innocuous to man when taken alone but produces unpleasant symptoms when followed by alcohol. These vary with the individual. A burning sensation in the face develops and is followed by conjunctival injection, redness of the face, and such congestion of the loose tissues around the eyes that the patient has difficulty in keeping them open. There is slight if any blood pressure change but the pulse rate increases and complaint is made of the heart pounding. General anxiety and distress then appear, accompanied by giddiness, hammering in the ears and headache. Symptoms develop within about fifteen minutes after taking alcohol and last a variable time up to about five hours when they gradually fade and the patient sleeps. He is listless the following day but able to work.

Patients going on parole from a special institution for rehabilitation of alcoholics are given 1 Gm. the day before departure and 0.75 Gm. at breakfast the day of departure. If he complains of feeling queer after his return, it may be explained that he has become so susceptible to alcohol that any lapse will probably cause unpleasant symptoms. Use of the drug should be frankly discussed with patients not going on parole and effort should be made to obtain their cooperation. Before using the drug on any patient regularly, he should be clinically tested by the administration of alcohol according to his usual habit of drinking. His reactions are then studied carefully. An illustrative case is described in detail.

Results obtained indicate that, in milder cases, the drug may help the patient to attain such an understanding that he may be able to shorten or dispense with institutional treatment. This requires further experience and careful judgment, however, before it can be evaluated properly. At present, it appears that the drug is a useful auxilliary but not a substitute for present general and psychologic methods for the treatment of alcoholic patients. 6 references.

A Statistical Study of Psychoses Due to Drugs or Other Exogenous Poisons. *Benjamin Malzberg, Albany, N. Y.* Am. J. Psychiat. 106: 99-106, Aug. 1949.

Psychoses due to drugs or other exogenous poisons represent very few first admissions to hospitals for mental disease in New York State. They average only about 0.2% of all first admissions. Despite the small number, the annual sex differences uniformly indicate that such psychoses are more prevalent among women than among men. Very few cases arise from poisoning due to a metal or gas. The largest category is that due to the use of opium or its derivatives. A detailed analysis of 166 first admissions with psychoses due to drugs or other exogenous poisons to all hospitals for mental disease in New York State from April 1, 1943 to March 31, 1948 showed the following:

The average age of first admissions with psychoses due to drugs, etc., is approximately 46 years. Women averaged about a year older than men. Approximately 60.0% of such admissions are found within ages 35 to 54. There was a high percentage of intemperate users of alcohol. When classified as to marital status, all except the married group were in relative excess of the numbers expected when compared with similar marital groups in the general population. The excess was especially marked among those who were separated or divorced. When compared with the general population, no significant differences with respect to degree of education were shown. However, they included higher percentages with a high school or college education than are found among all first admissions. They occurred more frequently among the urban than among the rural population. With respect to the latter, they were confined to the nonfarm group. Negroes had a higher rate than whites. This was due to a great excess among Negro men; negro women, on the contrary, contributed less than their quota of such first admissions. Foreign-born white patients had less than their quota; native white patients had an excess of such admissions. There is a suggestion of a relatively high rate among Jews, in contrast with unusually low rates of first admissions with alcoholic psychoses among them. 8 references. 8 tables.—*Author's abstract.*

3. Biochemical, Endocrinologic and Metabolic Aspects

Myxoedematous Madness. *R. Asher, Middlesex, England.* Brit. M. J. 4627: 555-62, Sept. 10, 1949.

Myxedema is one of the most important, one of the least known and one of the most frequently missed causes of organic psychoses. It is important because it may respond so gratifyingly to treatment, and little known because not much has been written about it. It is often missed because the text book description is not the rule, but the exception.

Fourteen cases of myxedematous madness have been seen at this hospital in five years. Nine of them recovered completely and dramatically, two improved partially, one improved physically, but remained psychotic and the other two died before they had responded to thyroid. In

no case was the diagnosis of myxedema made by the doctor who sent the patient into hospital. No specific type of psychosis has been shown (the mental changes in different cases resembling melancholia, mania, paranoia and other classical psychoses) but disorientation and persecutory delusions have been especially common.

The usual dramatic response of mental symptoms to thyroid treatment suggests that the madness is the result of the myxedema and not a coincidence; even in the unresponsive cases it seems likely that prolonged thyroid lack produced irreversible damage, for we know that cretins, unless treated early, fail to become mentally normal. Awareness of the possibility of myxedema is essential because myxedematous symptoms are only described when they are enquired for. Tiredness, gain in weight, aching legs and back, constipation, failing memory, falling out of hair, dry skin and perpetual coldness are common symptoms. Snoring and changes in face and voice are noticed by relatives. Bloated features, yellow color of face with wine-colored malar flush, scanty eyebrows, thinning scalp hair, pouches under the eyes and slow grating nasally obstructed voice are signs of myxedema. No case shows all signs and symptoms. The text book pictures usually illustrate advanced cases so that important mild cases are missed. Blood cholesterol is usually increased to about 300 mg. per ml. The classical bradycardia is not common except in advanced cases.

Myxedema is a much commoner cause of psychosis than is usually believed. Treatment with thyroid usually cures the psychosis dramatically. Fourteen cases are described—nine recovered completely, two recovered partially, one showed no change, and two were fatal. There is no specific psychosis, but paranoid ideas are common. Photographs before and after thyroid treatment give the best confirmation of the diagnosis.

Psychoses Due to Thiocyanate Treatment of Hypertension. *Warren F. Gorman and S. Bernard Wortis, New York, N. Y.* J. Nerv. & Ment. Dis. 110: 46-50, July 1949.

The author describes a case of toxic psychosis due to the treatment of hypertension by thiocyanates. Sodium and potassium thiocyanate (SCN) have been used since 1903 to reduce blood pressure in hypertension. SCN reduces the systolic and diastolic pressures by 60 and 40 mm. respectively, is a benefit for headache or a sense of cephalic fullness, and produces a state of sedation with mild euphoria. The drug is ordinarily given by mouth in 0.2 Gm. doses, sufficient to maintain a blood level of from 5 to 14 mg. per cent, generally considered the safe therapeutic range. Weekly blood determinations are necessary, as is careful clinical observation for toxic symptoms. The most common signs of intoxication are a maculopapular skin eruption and a typical acute organic psychosis.

The case described is that of a 65-year-old theatrical man for whom elixir of potassium SCN had been prescribed in a dose of 1 Gm. a day. He consulted an ophthalmologist for painful eye symptoms, and was found

to have chemosis, shallow corneal ulcerations, contracted pupils and a temperature of 102°F. Hospitalization was recommended. He continued to take his SCN daily without measuring the dose accurately, and was finally hospitalized when his eye symptoms and nervousness increased. He subsequently became uncontrollable, with an incoherent and illogical stream of talk, clouded consciousness, paranoid delusions, and visual and auditory hallucinations. On his second hospital day his conjunctivae, which had been diffusely injected, had cleared, his blood pressure was considerably lowered, and mentally he was less clouded. A sample of blood taken at that time showed 14.7 mg. of SCN per 100 cc. of blood. Hallucinations disappeared after three days. By the fourteenth hospital day his sensorium was almost entirely clear, but Rorschach and Bellevue-Wechsler examinations revealed an "organic mental picture". Repeated examinations showed no evidence for a cerebrovascular accident. The EEG was normal. As the level of SCN in the blood decreased, the blood pressure increased, but the patient was assured that an elevation of blood pressure, in itself, was not a menace to his health. He was discharged, recovered, three weeks after admission.

SCN is readily absorbed from the gastro-intestinal tract, and appears in the blood and spinal fluid. It is stored in intracellular spaces, but is excreted slowly by the kidneys, unchanged, at a low and highly variable clearance value. In addition to a maculopapular skin eruption and psychosis, other signs of toxicity include coryza, exfoliate dermatitis, Fiedler's myocarditis, thyroid enlargement with myxedema, bloody diarrhea, thrombophlebitis and convulsive manifestations. Fifteen deaths due to this drug have been reported, including 3 cases where the blood level was below 8 mg. per cent. The majority of cases have shown symptoms indicative of an organic psychosis.

4. Clinical Psychiatry

The Tasks of Psychiatry. Presidential Address to the Section of Psychiatry of the Royal Society of Medicine, London. *J. R. Rees.* J. Ment. Sc. 95: 325-35, April 1949.

It is likely that the borders of psychiatry will become less rather than more defined. The necessity in Great Britain for a liaison with non-medical groups is stressed. Team-work with non-medical colleagues is essential. Although there are many who doubt the wisdom of an intimate collaboration with interprofessional groups, and who consider the popularizing of psychiatric ideas and technic quite dangerous, the author feels confident that developments in this direction will definitely be for the good of psychiatric progress. Better undergraduate education in psychiatry is a crying need and much more time should be spent in

the training of clinical psychologists, psychiatric social workers, as well as sociologists, magistrates, probation officers, children's officers and children's workers generally. Nor should the training of lay psychotherapists be neglected.

The problems to be solved in treatment of psychiatric patients include diagnosis and treatment of patients in the out-patient departments as well as general consulting work in psychiatry. Also, the treatment and care of psychotic patients requiring hospitalization must be more carefully worked out, including the mentally deficient and subnormal. Another aspect covers the non-institutional treatment of the psychoneuroses by psychoanalysis or other forms of psychotherapy. Child psychiatry will no doubt soon develop into a separate specialty, requiring special training and presenting most hopeful prospects from the community angle. Still another branch is presented by forensic psychiatry and the care of psychopaths. Clinics for dealing with neuroses, including cases of delinquency, are recommended. Geriatric psychiatry may soon constitute a sub-specialty.

In addition to the problems already mentioned, there still remain to be considered those of psychiatric administration, service psychiatry, preventive psychiatry, cooperation with schools, government agencies, and evaluation and utilization of the press, moving pictures, theaters, and other methods of mass education from the psychiatric point of view. Marriage guidance, vocational guidance and the consideration of group tensions in international relations must all be included. The organization of interprofessional discussion groups to discuss mental health in relation to world citizenship should prove stimulating. The possibility of enlisting music, processions, flags, flowers and music to engender in democracies an emotional appeal comparable to that seen in Hitlerism and Communism is suggested. A better practical application of religion must not be neglected. If another war is not to be prevented, it will be necessary to plan in advance for the maintenance of morale in a country faced with biologic and atomic war. It is most important that general medicine should become integrated with psychiatry.

Diagnosis and Rational Psychotherapy. *C. H. Patterson, Minneapolis, Minn.* J. Nerv. & Ment. Dis. 109: 440-50, May 1949.

Traditionally, mental disease has been considered to be analogous to physical disease, with differential diagnosis being a prerequisite to psychotherapy. However, there are essential differences between the disease processes, and there is at present no basis for differential etiologic diagnosis in mental disorder, nor are there specific psychotherapies from which to choose.

It is suggested that all functional maladjustments are essentially alike in basic etiologic factors. Rational therapy should therefore be directed at the basic common elements. An outline of a theory of behavior is developed, utilizing the principles of homeostasis, dynamic equilibrium, and tension and tension reduction. General principles of psychotherapy are derived from this theory, and technics to implement these principles

are suggested. These principles and technics are those of the "non-directive" or "client-centered" method of counseling and psychotherapy. A comparison is made between this approach and the attempt of Alexander and French to develop a rational psychotherapy on the basis of psychoanalytic principles. Similarities and differences are discussed under the headings of the aims of therapy, etiology, plan of treatment, flexibility, transference, interpretation and insight, and therapy and learning. It is suggested that while many of the departures of Alexander and French from traditional psychoanalysis are advances, in other instances they appear to be inconsistent with a rational therapy. It is felt that the approach described in this paper retains certain desirable elements of psychoanalysis, and is a consistent, rational therapy based upon a systematic theory of behavior. 11 references.—*Author's abstract.*

Physical Symptoms Masking Early Psychiatric Disorders. *Louis G. Moench, Salt Lake City, Utah.* Dis. Nerv. System 10: 219-22, July 1949.

Every physician encounters patients presenting physical symptoms which mask underlying personality disorders. Initially the diagnosis of the physical disorder may seem entirely appropriate but the patient or the physician or both eventually become exasperated. The psychiatrist, who should be in the best position to make an early diagnosis of mental disorder, sees the patient only after the diagnosis has become obvious. Often the delay represents the loss of the best opportunity for early definitive treatment.

The etiologic factors of the symptoms are often unclear, but disturbances in mood, which often accompany mental disease, may induce profound changes in the physiology of the central nervous system, which may lead to symptoms. Also, in mental disease, perception of body sensations may be misinterpreted and normal sensations may become symptoms. Symptoms may also represent symbolic mental conflicts or the attempt at solution of the conflicts. A note of warning is in order concerning the diagnosis of mental or personality disorders on the basis of the doctor's annoyance with the patient. Five cases of major psychiatric disorders are presented, each with the chief complaint of headache. —*Author's Abstract.*

The Recognition of the Pre-Schizophrenic States. *Gordon C. G. Thomas and David C. Wilson, University of Virginia Hospital, Charlottesville, Va.* Virginia M. Monthly 76: 405-10, Aug. 1949.

Experiences during the last war plus the advantages of early treatment have emphasized the need for the recognition of potential schizophrenic patients. Psychologic studies show that pre-schizophrenia is usually found in persons having a family history of mental disease, who are asthenic or dysplastic, show markedly variable physiologic reactions, and employ-

ment records showing frequent changes. While not psychotic, impaired contact with reality is indicated by their peculiar thinking, actions, or emotional instability. A schizoid personality is not necessarily a prerequisite to schizophrenia but difficulty in intra-family relationships is common.

A review of the records of 220 schizophrenic patients showed certain characteristic premorbid states. Lack of normal identification with parents occurred in 57% of cases, an average of eighteen years before schizophrenia. The usual association with parents was absent for some reason, such as death or absence of one parent, born late in the parent's life, or family disruption during the first ten years of life. Rejection by the parents occurred in 31%, an average of 16.1 years before the development of disease. Abnormal fears of the dark, closed places, etc., occurred in 8.1%, an average of 13.6 years before illness. Long-standing inferiority feelings were found an average of 12.6 years before the development of definite mental disease. Inadequate heterosexual adjustment occurred in 76%, an average of 9.6 years before disease, 15 years of age being arbitrarily taken as the upper limit of time for showing interest in the other sex. Seclusiveness appeared in 14% of cases, an average of nine years before onset. Guilt feelings over masturbation and disturbing religious preoccupations were the next most frequent. Definite symptoms of nervousness or anxiety tension began to appear about eight years before the disease; unfounded physical complaints appeared about the same time. Other signs developing about four to eight years before schizophrenia were constant unfounded irritability, hypochondriacal complaints, daydreaming as a substitute for action, retreat into fantasy, inappropriate and emotional impulsiveness, and poor emotional control.

This survey showed that a pre-schizophrenic state should be suspected in an irritable and tense individual with unfounded vague physical complaints, whose history shows a broken home or over-protective mother, who has not learned to work or play with others and is beginning to withdraw. Such a patient may be beyond brief psychotherapy and perhaps require prolonged analysis or shock therapy but psychiatric study should be promptly started. 7 references. 5 tables.

Combat Exhaustion. A Descriptive and Statistical Analysis of Causes, Symptoms and Signs. *Roy Laver Swank, M.D., Boston, Mass.* J. Nerv. & Ment. Dis. 109: 475-508, June 1949.

The symptoms and signs of combat exhaustion are described and statistically analyzed. The study is based on objective data consisting of written records made at the time the patients were seen. Three groups of patients from the Northern European Campaign of World War II were observed.

Combat exhaustion developed only after severe or prolonged combat and exhibited the following general features. First, the character of the individual somatic symptoms in different soldiers was remarkably stereotyped. Second, the distribution and occurrence of these symptoms were

equally constant. Third, these qualitative and quantitative similarities were only slightly altered, if at all, by the presence of pre-combat neurotic tendencies. Headache, gastric distress or backache was the initial somatic symptom in practically every case. The second symptom was usually one other of these three. The remaining somatic symptoms appeared in no definite order, and rarely as initial symptoms. Thus in one group consisting of 54 men, dyspnea, palpitation and chest pain were present alone but once, and were equally rare as chief complaints; the so-called effort syndrome was conspicuous by its rarity among combat troops. Backache was much more common in men just out of combat and especially in those who were doing heavy manual labor. This symptom became much less frequent and severe with rest or sedentary occupations, even though other symptoms altered little or even became more severe. The uniformity of symptoms, and the relationship of backache to physical exertion, emphasizes the importance of physiologic mechanisms in the production of somatic symptoms.

In contrast to World War I, few patients had hysterical manifestations. These few exhibited about the same degree of anxiety and experienced about the same amount of combat as troops without hysteria. Many of the hysterical patients were as intelligent as the average soldier with anxiety alone. Somatic symptoms were never observed in the absence of emotional tension, the intensity of which had little bearing on either the number or severity of the somatic symptoms. This was shown by the ability of many men to carry extreme tension for long periods without developing somatic symptoms, whereas many others developed many severe somatic symptoms in the presence of mild tension. Once the somatic symptom threshold was exceeded, however, the organism (soldier) reacted in a remarkably stereotyped manner; a further increase in tension (or anxiety) was attended by an increase in the severity and number of somatic symptoms; a decrease in anxiety, by a decrease in the somatic symptomatology. In general, all symptoms of combat exhaustion were more severe and numerous in men exposed to longer periods of combat. Also, the threshold for the development of somatic symptoms was lowered slightly by the presence of pre-combat instability.

Combat exhaustion was most severe and had its earliest onset in units with the highest casualty rates. There was evidently a relationship between the time of onset of combat exhaustion and the total casualties in world combat areas. In this connection, however, it is felt that the emotional tension resulting from sustained and complete alertness is a more fundamental cause of combat exhaustion than the fear of death or mutilation. In general, the pre-combat stable men averaged more days in combat than the unstable men. The difference was significant only in those who broke down very early in combat and in others who remained in combat for long periods. Pre-combat stability did not prevent the development of

combat exhaustion, however. It is important to note that some men with severe instability prior to entering the service remained in combat for long periods, and that many pre-combat stable men performed poorly in combat. 10 references. 2 figures. 8 tables.—*Author's abstract.*

The Prognosis of Certain Hysterical Symptoms. *A. Barham Carter, England.* Brit. M. J. 4615: 1076-79, June 18, 1949.

To assess the effectiveness of treatment by suggestion in acute hysteria, the author analyzes 100 cases seen in 2 large civilian general hospitals over a five-year period and followed up from four to six years. Only cases showing clear-cut, isolated, easily recognized hysterical symptoms were chosen; amnesia, aphonia, blindness, fits, paralysis, tremor or vomiting. Only 10 of the 100 cases could not be followed up. The patients were from 16 to 40 years old; 60 were women and 30 were service cases. Precipitating factors were present in every case. The following methods of suggestion treatment were used: direct suggestion; indirect suggestion; hypnosis; and suggestion under thiopentone. In the course of suggestion treatment, no one was allowed to ask the patient how the affected part was, and full recovery was accepted as a *fait accompli.* Then the patient was given 2 or 3 interviews, and his story was received sympathetically, with interest and without haste.

All the 23 patients showing hysterical amnesia recovered their memory within seven days, 18 of them on the second day. Twenty of these patients were seen again four to six years later; 16 had remained well, 2 had relapsed once, one more than once, and one (who had taken a week to recover from the amnesia) had developed schizophrenia. There were 29 patients with aphonia and all recovered their voices with direct suggestion and without much difficulty. Each case showed a strong tendency to immediate relapse but reinforcement of the suggestion dealt with this. Upon follow-up, 19 of these cases were found to have remained well, 2 had relapsed following sore throat and laryngitis. Seven cases were difficult to assess; these patients customarily lost their voice if they became embarrassed, worried or unhappy. One case was untraced. Only 3 cases of blindness were involved. All were treated by hypnosis, recovered and remained well. There were 6 cases showing hysterical fits. Treatment was by indirect suggestion, no importance being attached to the attacks. As a result, the tendency to fits diminished but disappeared entirely in only 2 cases; the others replaced the fits by "black-outs", vertigo, and fainting attacks. At the time of follow-up, the 2 recovered cases were found well. One had developed schizophrenia and later committed suicide. One had remained partially well and 2 were untraced. Twenty-three cases of hysterical paralysis were treated by hypnosis or thiopentone suggestion. Fourteen remained well, 3 relapsed twice, one case is now paralyzed again. Of the 5 refractory cases, 2 recovered with deep psychotherapy. Of the 10 cases of hysterical tremor, all recovered with suggestion under thiopentone, but relapse was frequent. At follow-up, 4 of 8 are still trembling

and none will see a psychiatrist. In 6 cases of hysterical vomiting, treatment was by indirect suggestion; 5 cases recovered in a month, the sixth continued to have the symptoms intermittently. Three cases remained well, one developed an obsessional neurosis, one, other hysterical symptoms, and one was untraced. In view of the high percentage of good results obtained, the author wonders whether an acute hysterical episode has the grave prognosis usually envisaged and whether skilled psychotherapy or psychoanalysis is always needed.

Allesthesia and Disturbance of the Body Scheme. *Morris B. Bender, Mortimer F. Shapiro and Hans-Lukas Teuber, New York University College of Medicine and Bellevue Psychiatric Hospital, New York, N. Y.* Arch. Neurol. & Psychiat. 62: 222-35, Aug. 1949.

A case is reported in a 52-year-old right-handed carpenter which illustrates the behavior of patients with organic deterioration who show considerable general dysfunction. This patient suddenly developed confusion, mumbling speech and paralysis of the upper extremity ten days after a ureteral transplant for cancer of the bladder. These symptoms disappeared in a few weeks but recurred for a short time two years later and again a year later, just before admission to hospital. His wife stated that he had become increasingly peculiar for two years, that he was unable to tell his front from his back and would put on his pants upside down. Routine psychiatric examination indicated an organic mental syndrome with disorientation of time and place, recent and remote memory defects, and emotional instability. Neurologic examination showed evidence of bilateral pyramidal tract involvement. Detailed studies over four months showed allesthesia on both unilateral and bilateral tactile cutaneous stimulation. This appeared whether the patient attempted to locate the stimulus verbally or by pointing. Visual tests showed difficulty in localizing anything within his visual space. Hearing tests showed allesthesia of auditory perception, all sounds from above, behind or to the right being located as coming from the left. His motor pattern showed a levotendency, his head and trunk being tilted to the left, his right shoulder rotated forward and to the left when walking, and always turning to the left. Parts of his body in the midline could be located but he had difficulty with paired structures, overshooting the mark to the left. General spatial orientation was poor. He was unable to distinguish right from left with reference to objects in space and was unable to comprehend upward, downward, forward, backward, etc. His personality structure, however, was felt to be practically intact. He had an intelligence quotient of 79 on the Weschler-Bellevue Scale but routine Rorschach test showed organic brain disease.

This was a case of diffuse encephalopathy in which allesthesia or consistent referral of cutaneous, visual and auditory stimuli from one side to the other was the outstanding symptom. Principal associated features were motor and intellectual disturbances. 18 references. 1 figure.

The Phobic Syndrome. A Study of Eighty-six Patients with Phobic Reactions. *William B. Terhune, M.D., New Canaan, Conn.* Arch. Neurol. & Psychiat. 62: 161-72, Aug. 1949.

This report deals with the inclusive clinical picture, "the phobic syndrome," encountered in the course of treating 3100 psychoneurotic individuals, an incidence of occurrence of approximately 3%. The frequency is twice as great among women, and the majority of patients were under 40 years of age. Eighty per cent had one or both parents who were neurotic; the majority were from markedly over-privileged environments. The number of siblings and order of birth played no part. Eighty-five per cent had been married, 4 more than once; only two were divorced. They had few children. The intelligence of the group was outstanding, but few had taken advantage of educational opportunities, worked hard, or been successful in vocations. They lived poorly balanced lives, without self-regimentation, although they had few bad habits. They were dependent, without hobbies, inactive in games and sports. Their families loved them because they were easy-going and pleasant, but they were unsatisfactory marital partners and parents. Sex did not play an important part in their lives.

The psychiatric re-education and cure of a phobic syndrome requires approximately two months of intensive treatment, centered around daily interviews of one hour each with the psychiatrist. The patient is taught something of the physiology of the vegetative nervous system, the nature of emotions, and the conditioning of emotional responses. The role of the attention in accentuating symptoms and the utilization of intelligence are stressed. He learns the principles of mental hygiene, acquires skill in the use of mental tools, and develops confidence in his ability to live efficiently and happily, with a workable philosophy that includes both objective and idealistic purposes in life.

These 86 patients have been followed over a period of years, and the conclusions seem justified that: 1) 58, or 67%, were permanently relieved of phobias; 2) 21, or 24%, were greatly improved, working and living efficiently; 3) 7, or 9%, were very slightly improved or failures. Not one of these patients with a phobic syndrome ever developed a psychosis; none became alcoholic or drug addicts.—*Author's abstract.*

Muscular Atrophy and Pseudologia Fantastica Associated with Islet Cell Adenoma of the Pancreas. *Theodore Lidz, Joseph M. Miller and Paul Padget, Veterans Administration Hospital, Fort Howard, Md. and Anthony F. A. Steden (Lt., M.C., A.U.S.), Veterans Administration Hospital, Perry Point, Md.* Arch. Neurol. & Psychiat. 62: 304-13, Sept. 1949.

A case is reported of long-standing hypoglycemia caused by an islet cell tumor of the pancreas and accompanied by unusual clinical manifestations resulting from extensive central nervous system damage. The patient was a 23-year-old veteran with negative personal and family history. He had an attitude of pleasant superiority and gave a confabulated history

which he sometimes defended and at other times refused to discuss. He developed occasional generalized convulsions, his behavior deteriorated and he became uncooperative. The Weschler-Bellevue test showed a verbal intelligence quotient of 114 and a performance intelligence quotient of 80. Physical examination showed a disturbed, ataxic gait, badly garbled speech, muscular atrophy, no fibrillations but marked dysmetria of movements of the arms. Deep reflexes were present and equal but difficult to obtain, knee jerks were weak and ankle jerks were absent. Laboratory studies showed hypoglycemia caused by hyperinsulinism. Fasting blood sugar was 37 to 72 mg. per 100 cc. and glucose tolerance test showed a fasting sugar level of 54 mg. Tumor of the pancreas was diagnosed. Operation showed an encapsulated reddish purple growth about 1.5 cm. in diameter on the anterior surface of the pancreas. This was enucleated. Pathologic report showed it to be an islet cell tumor. Convalescence was uneventful and the patient became essentially normal except for some residual muscular atrophy in about five months.

The diffuse cerebral involvement in the case is not surprising as he apparently had had hypoglycemia for over three years. Muscular atrophy has not been reported in connection with hypoglycemia, but the patient may have had a coincidental progressive muscular atrophy. Improvement following the operation might have been a period of quiescence or might well have followed relief of the hypoglycemic state if anterior horn cells which had not been destroyed regained their function. Pseudologia fantastica usually occurs in charlatans, swindlers and other psychopathic personalities who deceive themselves with their falsehoods. This patient's confabulations differed from Korsakoff's syndrome in being well-organized and carefully defended. 9 references. 2 tables. 1 figure.

Psychoses with Multiple Sclerosis. *John K. Torrens, and John L. Otto, Galveston, Tex.* Dis. Nerv. System 10: 243-45, Aug. 1949.

The multiple sclerosis syndrome has long been known to include mild psychiatric symptoms. However, severe psychotic symptoms are relatively rare. The etiologic factors of these psychotic symptoms are discussed and the various clinical types are described. Of these psychotic reactions with multiple sclerosis, schizophrenic reactions are reported to be the least frequently seen. Two cases of multiple sclerosis with paranoid schizophrenic-like reactions are presented. The importance of recognizing the disease entity, psychosis with multiple sclerosis, is discussed. 14 references.—*Author's abstract.*

5. Geriatrics

See Contents for Related Articles

6. Heredity, Eugenics and Constitution

See Contents for Related Articles

7. Industrial Psychiatry

See Contents for Related Articles

8. Psychiatry of Childhood

Psychoneurosis of the Only Child (*Die Psychoneurose des einzigen Kindes*). *A. van Krevelen, Gravenhage, Holland.* Zschr. Kinderpsychiat., Basel. 16: 43-55, July 1949.

It is generally agreed that an only child is more susceptible to psychoneurosis than a child who has sisters and brothers. A review of the literature reveals a wide difference of opinion as to the time of onset, the sex incidence and special type of psychoneurosis encountered. In a review of the cases of 2400 children examined at the Children's Psychiatric Clinic over a period of ten years, ranging up to 15 years of age, the number of only children was 218, or 9.1%, which approaches closely the incidence of 10% of only children in this region in general. These figures would seem to contradict the notion that the only child is more disposed than others to psychoneurosis. Teachers report that the only child, especially in the younger age groups, appears to be more nervous than the other children. It is suggested that the teacher's opinion may have been influenced by the current theories. It is quite possible that parents would regard a child as normal, who, objectively viewed, would seem in need of psychiatric treatment. As the child becomes adjusted to his school companions he becomes less nervous, and this fact, too, may contribute to the teacher's report that the younger children especially seem affected. In public schools, the difference between the only child and other pupils is not so marked. The author concludes that there is no evidence to suggest any special predisposition to neuroses in the only child, either from a psychiatric, psychoanalytic or psychopathologic standpoint. The essence of neurosis in the only child seems to be the fear of growing up, and a feeling of inadequacy to cope with the struggles of daily life. The case of John Ruskin is cited, who found growing up a distressing experience, with little hope of becoming wiser; he had no more plans for the future than a "silkworm on his first mulberry leaf." Biographies of only children have shown their inclination to lean on others for support. Their social advances depend upon protection by parents or friends of parents. Long after these children reach adult years they may feel dependent, lack self assurance and stand in fear of every risk. 23 references.

Birth Injury as a Cause of Mental Defect. The Statistical Problem. *L. S. Penrose.* J. Ment. Sc. 95: 373-79, April 1949.

Opinions differ as to the role of birth injury in the cause of mental deficiency. Usually a traumatic origin is recognized only in asymmetrical lesions, since hemiplegia is not as a rule familial. It has been suggested that incompatible antigens might play some part in determining mental defects, but statistical surveys have yielded very unreliable data. It is generally agreed that prematurity predisposes to cerebral birth injury, and it is believed that birth injury is more likely to occur in the firstborn, and to infants born of very young or very old mothers.

In the present series of 1,280 institutionalized defective children observed during the period of 1930 to 1937, birth injury could be proved to be the cause of the mental condition in only 11 cases. In some other cases birth injury might have played a contributing role, but the connection could not be proved. Thus birth injury was demonstrable as a cause of the mental defect in only 1% of the cases. Of the 11 patients in whom this etiologic factor was demonstrable, 8 were boys and 3 were girls. All except one patient showed signs of pyramidal lesions. As a rule one side only was affected, or if both sides, they were unequally affected. Seven of the group were epileptic. In one case, there was an associated pituitary dystrophy. Labor had been abnormal in the births of all. Six of the patients were the products of first pregnancies. The maternal age varied from 21 to 39 years, with an average of 29.4 years. The intellectual level of these patients varied from low grade idiocy to high grade feeblemindedness. The average I.Q. was 36.5. 17 references. 4 tables.

Microphthalmos and Anophthalmos With or Without Coincident Oligophrenia. A Clinical and Genetic-Statistical Study. *Torsten Sjogren and Tage Larsson.* Acta psychiat. et neurol. 56: 12-99, June 1949.

This is a report of the results of clinical and genetic-statistical investigations made among 51 probands suffering from microphthalmos or anophthalmos with coincident oligophrenia (MO) and 79 probands with microphthalmos or anophthalmos without coincident oligophrenia (Mi) admitted to all the schools for the blind in Sweden and to the asylums for the blind with complicating disabilities. This study comprises a complete inventory of these diseases in Sweden, and therefore a basis for calculations of incidence, and for clinical and genetic-statistical analysis, showing that the combination of anophthalmos or microphthalmos with oligophrenia must be a homogeneous form of disease or that it must have a very strong linkage. The authors give statistical data concerning the incidence of MO and Mi in Sweden, per thousand children who have reached the school age (7 years). They have noticed that the sex distribution in these cases is similar to the normal sex distribution. They found a probable excess mortality for the MO cases with an average expectation of life of 15 to 20% lower than that for the normal population, and none or a very slight excess for the Mi cases; a 17% occurrence of bilateral or unilateral anophthalmos, 24% of cataract, 19% of coloboma among the MO cases, while only 11% of anophthalmos and a smaller extent of cataract and coloboma were seen in the Mi cases. They also noticed epilepsy, skeletal anomalies in the form of clubfoot, flatfoot, kyphosis and kyphoscoliosis with rare microcephaly and organic heart disease and no deaf-mutism among the MO cases. Furthermore, 44% of the MO cases examined for toxoplasma determinations plus 83% for Wassermann reactions in the blood were persistently negative. A relatively small number of MO and Mi cases revealed that their mothers suffered from German measles in their pregnancy. Five out of 58 MO cases showed a spastic diplegia in addition, and of these 58

cases, 26 were idiots, 31 severely imbecile and only one feeble-minded. The genetic-statistical investigation of the 57 patients who belonged to 49 families established that the only mode of inheritance that was considered plausible among MO cases was a partially sex-linked mode with a reduced degree of manifestation. It was impossible to rule out the existence of separate forms of inheritance so that the inheritance in certain families was totally sex-linked recessive and that otherwise it could be a question both of a partially sex-linked recessive mode of inheritance and mutations with a dominant appearance. The authors established also that Mi occurs to a certain extent as a dominant hereditary malady. Finally they state that it is impossible to ascertain the extent to which cases caused by exogenous factors occur among the isolated MO and Mi cases. 77 references.

A Treatment Program for Parents of Schizophrenic Children. *Harris B. Peck, Ralph D. Rabinovitch and Joseph B. Cramer, Bellevue Hospital and New York University Medical College, New York, N. Y.* Am. J. Orthopsychiat. 19: 592-94, Oct. 1949.

Experience with over 200 cases of childhood schizophrenia showed that a concomitant treatment program was required for both child and parents. Notwithstanding their need, however, parents tended to resist medical help and were difficult to treat individually.

A program of group therapy for these parents was installed as part of the Bellevue Hospital Research Program in Childhood Schizophrenia. It seemed especially appropriate because the schizophrenic child in the home, and parental feelings of social isolation and hopelessness, simplified grouping and selection of members. Parents were early impressed with the research nature of the project and developed an exceedingly helpful, constructive and positive approach. A group of 50 parents were treated in group sessions over a two-year period, both parents attending in 15 cases. These families benefited most. Many advantages and no disadvantages were found in treating both parents together. Group therapy was found especially effective in handling the common reactions of confusion and anxiety, and strong feelings of guilt, social isolation and hopelessness. Recognition of their common problems decreases the feelings of guilt, hostility, social isolation and hopelessness. A positive and realistic attitude develops toward the child's illness. Recognition of their common problems decreases the sense of uniqueness, builds relationships between individual members and strengthens group identification. This permits emotional release, expression of previously suppressed feelings, and attainment of insight. Weekly sessions of 1½ to 2 hours are held, attendance ranging from 8 to 12 per group. Ability to handle community pressures constructively develops. The positive orientation and previously lacking feelings of social usefulness are strengthened. Results have been highly satisfactory, important information on the longitudinal history of schizophrenic children, family relationship and response to treatment being obtained. 1 reference.

9. Psychiatry and General Medicine

Incidence of Physical Disorders Among Psychiatric In-patients. A Study of 175 Cases. *H. E. S. Marshall, London, England.* Brit. M. J. 4625: 468-70, Aug. 27, 1949.

During 1948, 175 patients were admitted and investigated in the Psychiatric In-Patient Unit of St. George's Hospital, London. In 77 of these (44%) some physical condition was present and needed attention. In 4 patients (2%) serious physical disorders not previously suspected were found—one case each of pulmonary tuberculosis, bronchial carcinoma, glioma and epilepsy. In 10 patients (6%) the physical disorder present was found to have a definite psychogenesis. In 39 patients (22%) the physical condition was contributory to the development of the psychologic illness. In 26 patients (15%) physical and psychologic disorders occurred together but did not appear to be etiologically related. Detailed figures are given of the various physical conditions found.

The psychiatric aspect of many physical diseases is now widely recognized, but less emphasis has been laid on the physical factors in psychiatric syndromes which are not obviously of organic type. Three case histories are quoted which stress the point that full medical and surgical facilities are required for the treatment of such cases. This is best carried out in especially equipped psychiatric units within general hospitals. 3 references. 3 tables.—*Author's abstract.*

"Change of Life". A Psychosomatic Problem. *Lydia Sicher, M.D., Ph.D., Los Angeles, Calif.* Am. J. Psychotherapy 3: 399-409, July 1949.

The process—change of life—is a slow physiologic change without any acute endocrine disequilibrium which would be subject to treatment by medical means, but the "problem" is predominantly psychical, produced originally by improper training in the formative period of the personality. Essentially it is the same problem which has to be solved whenever the individual is faced with any critical phase of development, or any situation which may represent a crisis for that individual. The presence of physical changes in puberty and menopause makes it easy to overlook the connection between the demands of life at a special age and the unpreparedness of the individual to meet them, thus only the recognition of this fact by physicians and patients alike makes it possible to assess correctly the physical and psychical factors and proceed accordingly.

Many people have trained themselves to consider youth and sexual appeal as synonymous. Men and women both may be laboring under the misconception that all personal value lies in the realm of sex: women considering themselves as desirable sex-objects, men as desirable sex-subjects; but apart from this wrong idea it is not easy to age gracefully, especially in a culture where the emphasis lies on youth and abrogates value to age, and to many women the onset of the menopause means

saying farewell to youth and all it represents, and creates the frightening idea that the period between middle age and death is scarcely anything but a time of decline of both physical and mental power. There is also a mostly unadmitted factor, i.e. fear of death, which contributes to the anxiety so common to this stage of life.

Usually a "change of life" coincides with the coming to adulthood of the woman's children and, at the precise moment when she feels that her youth is gone, it strikes her that she is no longer of use, and she may develop the idea that she is superfluous. "Being needed" then becomes "being in need". The resemblance of many "shell shock" symptoms to those present in the climacteric phase is unmistakable, and the role of the "intangible" influences should be as well and widely recognized in the latter as it is now in the former. The shock, in each case, is produced by the necessity, forced upon the individual, to face a problem for which he or she is not prepared. Those trained to find personal value in their contribution to society as a whole will not develop nervous symptoms, and will meet all problems, ready to incorporate them into the treasure of experience. The door which seems to close behind the psychically unprepared person is a door that opens onto new vistas for others for whom there will be no "panic of the closing door". Neither age nor youth, as such, merits respect. The question to be asked is not: "How old is he?" but "What does he do with his age?" Until society evaluates the individual according to the answer to this query the symptoms of change of life become in themselves a neurosis from which the world is suffering. A better understanding of these problems, a better upbringing of children, a better evaluation of life and its creative potentialities, will make the world better and less neurotic.—*Author's abstract.*

Psychosomatic Aspects of Gastro-intestinal Disorders. *Clarke H. Barnacle, Denver, Colo.* Rocky Mountain M. J. 45: 642-47, Aug. 1949.

Patients with functional or psychosomatic gastrointestinal disorders form about one-half of those with gastrointestinal complaints. They are divided into those who react to emotional and environmental strain with gastrointestinal complaints without organic structural changes, and those in whom emotional reactions play an important part in pathologic structural and functional changes. The autonomic nervous system largely controls the secretions and blood vessels of all organs, especially the hollow viscera. Its involvement in emotional reactions produces clinical symptoms, chiefly in the stomach, intestine and gallbladder.

The earliest interest and objective of the infant is the taking of nourishment. This soon becomes associated intimately with receptivity, or the desire to be loved and cared for. These traits continue and are elaborated in the adult whose gastric symptoms develop as the result of unconscious tendencies which act as chronic psychic stimuli of the stomach. The chronic hypersecretion and hypermotility leading to peptic ulcer are produced by the unconscious desire to be fed, peptic ulcer being the end

result. Constipation and the diarrhea of colitis reflect the parallelism between the disease and the patient's attitude toward life. While the unconscious dynamic relation of an individual to his environment cannot necessarily be reduced to alimentary tendencies, the gastrointestinal tract probably is affected by chronic stimuli based upon unconscious demands of the individual. Study of the developomental childhood history and past life experience of individuals frequently shows enough evidence to explain gastrointestinal symptoms.

The traditional medical approach to gastrointestinal disease is to locate the diseased organs or systems causing the symptoms. Psychologic features of the illness usually are avoided. Functional disease results from personality disorders, however, and not physical conditions. Both physical and neurologic examinations are as essential for diagnosis as laboratory tests. The psychosomatic approach considers the individual himself as well as the physical symptoms. The physician-patient relationship is most important. The doctor should be encouraging and understanding, the patient being permitted to tell his story leisurely and at ease. The history is important, especially reactions to past stress and strain, home life and employer-employee relationship. If apparent etiologic emotional disturbances are found, the patient should be given an opportunity to unburden himself and unload repressions. Suggestion and persuasion may be necessary. It is felt that the average general practitioner should be capable of handling minor psychiatry but if not, it might be well to obtain a consultation with a trained psychiatrist. 0 references.

Psychiatric Treatment in Psychosomatic Illnesses. *O. Spurgeon English, Temple University School of Medicine, Philadelphia, Pa.* New Orleans M. & S. J. 101: 565-73, June 1949.

The physician using psychiatric treatment for psychosomatic illness must have an awareness of the emotions producing physiologic disturbances, an understanding of the personality control of body physiology, an ability to discern emotional defects or conflicts and an ability to help the patient reduce his conflict and obtain missing emotional nourishment from his environment.

Anxiety is one of the most basic human emotions; it reduces efficiency greatly and may lead to invalidism. Psychotherapy first relieves the immediate anxiety of a patient by explaining his symptoms. A brief explanation of pertinent laboratory experiments or of charts showing the vegetative nervous system may be helpful. Moving pictures on the production of psychosomatic symptoms are useful in group therapy. Effort is then made to decrease the patient's strong inclination to take extreme care of himself, such as constantly watching the workings of his heart and stomach, or constantly trying to regulate his every activity so that he may not become worse. Early normal activity should be urged if the

patient is found free of organic disease. The patient with a normal heart must be urged to play golf, climb stairs and do as others do normally. The patient with a normal stomach must be urged to eat an average diet and find the origin of his symptoms in his emotional life.

Psychoanalysis is not needed by all patients with psychosomatic illness. It may be necessary for such cases as anxiety hysteria, mucus colitis and chronic gastrointestinal symptoms, but many other cases do not require it. The general practitioner, internist, surgeon, and psychiatrist who is not an analyst can help most patients with psychosomatic illnesses. It is difficult to estimate the time that may be required for emotionally ill people to come to terms with their real selves and show appreciable improvement. The physician must therefore be satisfied with slow progress. While patients naturally desire prompt relief from symptoms, time is required for change. Reassurance and encouragement on this point are most important in preventing patients and physicians from becoming annoyed with both each other and psychotherapy. 1 table.

The Psychosomatic Diseases. A Hypothetical Formulation. *Harry Stalker, Edinburgh.* J. Ment. Sc. 95: 355-68, April 1949.

In attempting to define psychosomatic disease, it is necessary to determine whether the bodily effects of the emotions can be classified and it is likewise necessary to classify psychosomatic disease. A tentative list of psychosomatic diseases includes the paroxysmal rhinorrheas, bronchial asthma, gastric and duodenal ulcer, ulcerative colitis, essential hypertension, arterial degeneration, including coronary arterial disease in younger age groups, hyperthyroidism, migraine, chronic arthritis, certain skin diseases such as urticaria and pruritis, enuresis, and primary dysmenorrhea.

Any attempt to classify the effect of emotions on the organism must be based on a study of visceral changes and to a less extent on the state of the voluntary muscles, including posture and general expression. Pleasant emotions have a steadying and harmonious effect and in extreme degrees may cause palpitation, tremors, sweats and sexual excitement. Unpleasant emotions may be acute or chronic and may be caused by grief, pain, anxiety or fear, or may be of the aggressive type. There are physiologic and pathologic effects of emotion. There may be a voluntary or an involuntary response. It has been stated that emotional response is primarily utilitarian, i.e., in the interest of survival, defense or nutrition. However, the emotions do not always react according to the true needs of civilized man. Pathologic responses may lead to excessive or disadvantageous bodily reactions. In psychosomatic disease, the whole personality structure is dominated by elements of anxiety, obsessionalism, aggression, rage, hostility and resentment. Aggressive trends and bodily effects are more dominant and common in psychosomatic disease than in other psychiatric states. Psychosomatic disease is more common in men than in women. The organ to be involved in psychosomatic disease is determined by

constitutional factors, hereditary susceptibility toward reacting to stress in a given way. Constitutional predisposition and continuous environmental stress result in repeated trigger-like responses. Relapse of psychosomatic disease may be caused by acute and immediate emotional disturbance.

The bodily expressions of emotion in health and disease may be divided into those of pleasant and unpleasant emotions. The latter may be subdivided into 3 groups: 1) diminished visceral and voluntary muscle function in sadness, neurasthenia and depression, representing a withdrawal from activity or any attempt to influence the environment; 2) increased visceral and voluntary motor function in aggressive emotions, and in the psychosomatic diseases representing a preparation for active aggressive responses, and 3) greater or less mixture in normal and pathologic states of anxiety. If the same basic mechanisms of aggression occur in all psychosomatic diseases, hereditary influence may prove one of the factors determining the choice of symptom. 24 references.

Some Contributions of Psychiatry to General Medicine. *Winfred Overholser, Superintendent, St. Elizabeths Hospital, Washington, D. C.* J. Missouri M. A. 46: 573-76, Aug. 1949.

Although Pinel, a general physician, first delimited psychiatry as a specialty of medicine, it was isolated for many years from the stream of general medicine. This isolation was aggravated by the development of medical specialties, which focused attention on the particular organ rather than on the patient as a whole.

The rediscovery of psychosomatic medicine (a term used in the literature over 100 years ago) has done much to emphasize to the practitioner the importance of the emotions in the causation of physical symptoms, and conversely the emotional effects of physical disease. It will always devolve upon the family physician to care for the general run of patients suffering from emotional disturbances. "By the methods best suited, with tact and understanding, the patient must be guided to a mature way of dealing with his situation. He must understand the relation of his symptoms to the particular maladjustment which he is suffering. In achieving this end the family physician, the man whom the patient trusts, the man whom he knows to understand him and to be tolerant of him, will play an important and, indeed, an essential role." 3 references.—*Author's abstract.*

Mental Pathology and Tuberculosis (*Pathologie méntale et tuberculose*). *R. Burnand, Lausanne, Switzerland.* Rev. méd. Suisse rom. 69: 209-31, April 25, 1949.

In the usual form of pulmonary tuberculosis, the mental effects are due not to the specific nature of the disease, but to its chronicity, and the reaction of the patient varies according to his temperament and training.

In cases of multiple tuberculous foci in the body—variations of the miliary type—with resulting toxemia, there may be focal lesions in the central nervous system, or the nervous and mental symptoms may result from toxemia. In some cases various types of neuroses develop, not only

those with depressive symptoms but hysteria also. Seven illustrative cases are reported. In others a true psychosis develops. Seventeen cases of schizophrenia are reported in which careful physical examination showed multiple chronic tuberculous foci; some of these patients showed a slight periodic rise of temperature, others no tendency to fever. In these cases a history of similar conditions (psychoses and chronic tuberculosis) in the family was not unusual. In one case, a psychosis with hallucinations and manic episodes also was associated with multiple chronic tuberculous foci. Whether the frequent association of psychoses, especially schizophrenia, with tuberculosis of the type described, indicates that the infection prepares the field for the development of the psychosis, or whether they both arise on a common hereditary basis, has not yet been proved. But that some psychosomatic states and certain neuroses can be definitely ascribed to the tuberculous infection suggests that some of the major psychoses may be caused in the same way.

The depressions and neuroses associated with chronic tuberculous foci and toxemia may be definitely improved by treatment with tuberculin; one of the first symptoms to be relieved in these cases is the asthenia and mental apathy. Three illustrative cases are reported. The author has also used tuberculin therapy in a few cases of schizophrenia without result, but the cases treated were all of long standing. However, a French psychiatrist, Hyvert of Amiens, reports some cases of schizophrenia cured and others improved by tuberculin therapy, the best results being obtained in early cases. 2 references.

Three Cases of Psychically Induced Coronary Infarct (*Tre fall av psykiskt utlöst coronarinfarkt*). *Anders Kristenson, Stockholm.* Svenska läk.-tidning 46: 1550-52, July 22, 1949.

Electrocardiographic changes have been noted in psychic irritation and it is suggested that all transitions may occur, from cases with slight electrocardiographic changes and no marked subjective symptoms to cases causing more or less injury to the myocardium. In the 3 cases reported, psychic irritation was followed by coronary infarct.

Psychogenic Rheumatism. *William Tegner, Desmond O'Neill and Anna Kaldegg, London and Guy's Hospitals.* Brit. M. J. 4620: 201-04, July 23, 1949.

It has been recognized for some time that many patients who present themselves at hospital with "rheumatic" pains are not suffering from any physical disorder of the locomotor system; a number of investigations of the psychiatric status of these patients has been reported in Great Britain and the United States. In this study, 15 patients with "psychogenic rheumatism" were examined from the physical and psychiatric aspect; a control group suffering from painful disorders of which the cause was known,

and having the same age and sex distribution, was examined by the same means. The psychiatric examination included a clinical interview with the patient, a psychometric appraisal by the Rorschach and T.A.T. tests, and interviews with relatives and friends.

Differences were found between the two groups in respect to: 1) expression of complaint. The patients used compound and unusual terms (twisting, stinging and stabbing, etc.) much more often than the controls, who tended to use brief and consistent terms; 2) site of discomfort. In the controls, mainly localized; in the patients, mainly diffuse; 3) factors influencing severity of discomfort. In the controls, touch or movement of the affected part was the most frequent aggravating factor; in the patients, several factors were mentioned, including mood and noise. Analgesic drugs produced improvement in the former but not in the latter group. The subject's state of feeling influenced the discomfort more often in the latter group. Variations in the severity of discomfort during the day, or from day to day, did not differ between the groups, nor did the effect on the discomfort of climatic conditions; 4) associated nervous symptoms were present in 14 of the patients, and 5 of the controls; in 2 of the latter, the nervous symptoms were considered to be secondary to the somatic disorder. In most of the patients but in only a few of the controls, onset of the illness appeared to be related to circumstances of emotional tension. With two possible exceptions, the rheumatic condition in every patient formed one component of a reaction pattern which was also expressed in disturbance of effect and behavior.

The Rorschach test showed signs of disturbance much more often in the patients than in the controls; anxiety, domination by emotional impulses, awareness of sinister inner forces, and other signs were found. On the T.A.T. test, the patients showed greater preoccupation with themes of violence, injury, crime and punishment. Among the patients, no signs of a physical rheumatic disorder were found; x-ray and blood sedimentation rate showed no abnormality.

From this study, the principal diagnostic features of psychogenic rheumatism seem to be in: 1) expression of complaint; 2) area of discomfort; 3) failure to conform to an established organic syndrome; 4) setting of the illness in relation to the patient's life situation, and 5) lack of response to physical treatment. In treatment, physiotherapy is not of value; group or individual psychotherapy is required.—*Author's abstract.*

Psychiatric Aspects of the Low Back Syndrome. The Narcotherapeutic Approach. *Otto L. Bendheim, Phoenix, Ariz.* Arizona Med. 6: 30-4, July, 1949.

A series of 72 cases of "low back syndrome" treated psychiatrically are reported. In all cases, psychotherapy was instituted because of failure to respond to other types of treatment and because of suspected underlying personality problems. The type of psychotherapy used was narcotherapy. The narcotherapeutic interviews revealed psychogenic factors which could

not be ascertained prior to narcotherapy. The possible mechanisms of symptom fixation upon the lower back are discussed and the psychodynamics of the syndrome are evaluated. The results were quite good in the non-traumatic group, but in the group where the precipitating factor was trauma and where litigation and insurance claims were involved, the results were frequently disappointing.—*Author's abstract.*

Reference to Current Articles

Compulsion Neurosis With Cachexia (Anorexia Nervosa). *Franklin S. DuBois, New Canaan, Conn.* Am. J. Psychiat. 106: 107-15, Aug. 1949.

10. Psychiatric Nursing, Social Work and Mental Hygiene

Extramural Psychiatry (*Psychiatrie extra muros*). *Arthur Kielholz, Aarau.* Schweiz. med. Wschr. 79: 404-07, May 7, 1949.

The author began his work in extramural psychiatry after an experience of thirty-three years in intramural psychiatry. It is emphasized that statistically only a small percentage of the mentally abnormal are institutionalized, and that about 10% of the average population is in need of psychiatric attention. In the region of Aarau, this would include some 25,000 persons, and of these only 1,500, or 6%, are institutionalized. Of the 94% of extramural afflicted persons, not all are in need of special psychiatric treatment. There is no purely mental or purely physical disease; each disease has its mechanical, toxic and psychic components. Extramural psychiatry is indicated chiefly in chronic diseases in which the usual methods of treatment fail to bring results. Patients requiring psychiatric treatment have been listed by Menge as follows: those with beginning or manifest psychoses, psychoneuroses, character anomalies, extremely neurotic subjects, chronic convalescent patients failing to respond in spite of the cure of their physical ailments and subjects suffering from organic or functional disturbances of the hormone system.

To any one being transferred from intramural to extramural service in psychiatry it is at once evident that the extramural patient is much easier of approach, less anxious and more eager to cooperate with the psychiatrist. Extramural methods of psychiatric examination include anamnesis, Jung's association test, Freud's dream interpretation, a study of complexes and their analysis, the Rorschach tests, the Zuliger method for group testing, a study of handwriting and drawing and Szondi's recent test based on a selection of photos appealing to the patient. It is helpful to make a study of the patient's mistakes and misdeeds. A knowledge of Jung's types, i.e., the intellectual, the emotional, the intuitional, etc., is of great help, and likewise the grouping of patients into the Kretschmer body types and possibly according to Freud's libidinous, narcistic and compulsive types.

Methods of treatment in extramural psychiatry include suggestion and hypnosis, the persuasion method of Dubois, Freud's psychoanalytic method, and Mader's combination of psychotherapy and religious training. The extramural psychiatrist must, in the face of rapidly changing and

developing ideas, be ready to select what is best and if necessary combine his methods of treatment. It was at first believed that schizophrenia constituted a contraindication to analytic therapy, but recently excellent results of this method have been reported in schizophrenic patients. A Welsh psychiatrist, Mme. Sechehaye, succeeded, after years of patient work, in enabling a subject whose condition was considered hopeless to resume his occupation and place in society. Drugs may be used as adjuncts to psychotherapy. The hormones have proved of aid in psychoanalysis. The responses of a patient under narcosis or narcoanalysis may yield results in apparently hopeless cases. A combination of drugs, hypnosis and analysis may prove of value. 29 references.

Psychiatry in Switzerland. Zurich, Basel, Bern. *Robert A. Clark, M.D., Pittsburgh, Pa.* Am. J. Psychiat. 106: 140-42, Aug. 1949.

This article is concerned principally with the institutional practice of psychiatry in German-speaking Switzerland, with notations concerning private practice of psychiatry in Zurich and mental hygiene activities at Basel also. The standards of treatment, care and professional training in the hospitals described are high. On the other hand, they share many of the problems of the American hospitals, for example, too few beds, too high a proportion of the chronically ill, too rapid a turnover among nurses and attendants. Attention is called to some of the more recent developments in Swiss psychiatry: the use of Parpanit (d-ethyl cyclopropane) in parkinsonism, and as a substitute for curare during electroshock treatment, the application of the theories of existentialism to the psychopathologic factors of functional diseases, and the concept of the "family unconscious" as developed by Dr. L. Szondi. A plea is made for the greater exchange of information between American and Swiss psychiatrists, for example, by means of exchange of psychiatric journals of both countries. 4 references. —*Author's abstract.*

Brief Psychotherapy—A Hospital Program with Participation of the Social Worker. *Werner Simon and Myron R. Chevlin, Veterans Administration Hospital, St. Cloud, Minn.* Ment. Hyg. 33: 401-10, July 1949.

Four methods of psychotherapy, advocating different avenues of approach, may be distinguished: 1) the direct approach, represented by Adolf Meyer's distributive analysis; 2) the non-directive approach, employed by Carl Rogers; 3) Freud's psychoanalytic method of treatment; and 4) brief psychotherapy, based on psychoanalytic principles, as modified by Alexander and French. The activities of the psychotherapy unit at the Veterans Administration Hospital, St. Cloud, Minnesota, are described. This unit is organized on the concept of a clinical team, including psychiatrist, psychologist and psychiatric social worker. Modified brief psychotherapy is the method of choice in the treatment of selected patients. The advantages of psychotherapy in a hospital setting, over office treatment, are discussed. Team-work is stressed, with pooling of information

and interpretation. Professional rivalry for the role of therapist does not exist among the members of the team. The question as to whether or not the social worker's participation in psychotherapy means desertion of his profession is answered in the negative, inasmuch as his therapeutic activities are in addition to the performance of all his traditional functions. Therapy is given under close supervision of the psychiatrist, and frequent conferences are held with the members of the team. Experience as a psychotherapist is a valuable contribution to the professional growth of the social worker. It enables him to appreciate more fully the clinical importance of the dynamically oriented social history and its use as a diagnostic tool. It enhances his understanding of psychodynamics and psychopathology, and is reflected in the social histories he prepares. The increased insight which he develops aids him in thorough planning of follow-up services aimed toward a more complete rehabilitation of the mentally ill veteran.—*Author's abstract.*

Activating a Pilot Clinic for Psychiatric Care. How One General Hospital Participates in the National Mental Health Program. *Jacques Cousin and Roy C. Stephenson, Detroit, Mich.* Hospitals 23: 61-2, June 1949.

The National Mental Health Act was the first step toward pilot psychiatric clinics throughout the country. The purpose is to treat adults early in mental illness, and to educate the community to understand that mental illness is not a disgrace. The Harper Hospital uses Government resources, private philanthropy, the Community Chest, and members of the profession. The Director is appointed by the State Department of Health, and he is approved by an Advisory Committee and the Hospital. The State Department of Health also provides a clinical psychologist and three psychiatric social workers, all subject to State civil service regulations. The hospital contributes space, utilities, a janitor and some other services. The Community Chest and private philanthropy provide an additional part-time psychiatrist, stenographic help, clinic furnishings and equipment. Operation is the responsibility of the State Department of Mental Health and the Board of Trustees at the hospital.

The objectives are short-time therapeutic treatment, proof of the value of setting up additional clinics, and diagnostic and psychiatric counseling. No treatment is given psychotic patients, criminal psychopathic patients, chronic alcoholic patients, sexual deviates, drug addicts, or the chronically ill. These are referred to the proper agencies. Referrals come from private physicians and social agencies. Indigent patients are referred to the out-patient department for the necessary physical examination. Medical eligibility is considered first before financial circumstances are discussed. This is done in the pilot clinic and financal arrangements are made on the bass of a schedule of income and number in family. This clinic is in the formative and transitional period, and changes may be

developed as needed. The experience so far has indicated that government subsidy does not necessarily imply government control and that complete hospital coverage may be had through multiple support in the operation of vital clinics. 1 table.

11. Psychoanalysis

Modern Reorientations in Psychoanalytic Therapy. *Jules H. Masserman, Chicago, Ill.* Dis. Nerv. System 10: 227-31, Aug. 1949.

Masserman discusses the revisions in analytic therapy and technic which have been developing since Freud first used hypnosis, permissive association and the interpretation of dream and other symbolisms. From his "emotional catharsis" and later deeper explorations of the patient's inner life, recapitulated in the relationships of the patient to the analyst, has emerged the concept of psychoanalysis of the total personality, in which the patient becomes aware of his earliest experiences, conflicts and attitudes, and works them through with his adult capabilities, freeing himself from unconsciously determined behavior traits so that he can face life on an adult basis. With further accumulation of knowledge and skill, psychoanalysis should continue to change and develop in theory and technic. Analysts should investigate older forms of therapy, such as religious conversion and other quasi-mystical experiences, and re-examine in the light of analytic knowledge the mechanisms of suggestion, semantic re-education, group therapy and related individual and social technics used by other practitioners. Such physical therapies as the use of hormones, shock therapy and lobotomy might also be studied. It would benefit analysts and their psychiatric colleagues mutually if a much more effective clinical and research liaison were established among all fields of psychiatry and its ancillary disciplines.

A progressive trend in psychoanalytic literature is that toward clarity of expression without use of obscure terminology. It is necessary also that definitions be agreed upon among workers; otherwise mutual understanding may be impossible. The word "emotion," for instance, has many connotations, and in using it the writer should be careful to specify which meaning he intends. Commenting on Wolberg's statement that hypnosis facilitates the release of repressed memories, the author says that in hypnosis the patient may produce material that will lessen his anxieties and please the therapist, and which consists of retrospectively falsified memories and transference fantasies rather than fact. As for Alexander's statement that during therapy the patient compares his unconscious image of the harsh parent with the actual image of the kindly analyst and is "forced" to revise his neurotic patterns, the author claims that the therapeutic process cannot be understood in terms of compulsion. By symbolic or actual re-explorations accompanied by lessened anxiety, the patient learns that his old defences are no longer necessary and cherished misconceptions and neurotic defences no longer profitable, and so he is gradually

emancipated from the neurotic pattern. These principles have been applied under various guises for ages, but are now being converted to the finely calculated technics of more precise psychologic understanding. Psychiatrists and psychoanalysts, after thorough and eclectic training, should be able to determine which technic will be most helpful in each case, and use the modifications required by each patient. 15 references.—*Author's abstract.*

On the Etiology of "Shared" Neuroses: Remarks in Extension of a Freudian Observation. *Robert M. Lindner, Baltimore, Md.* Bull. Menninger Clin. 13: 176-84, Sept. 1949.

Case histories of a brother-sister pair showing obsessional neurosis in the male and hysteria in the female are discussed. The significant repression in both involved a mutually shared childhood sexual adventure. The man had been treated by 3 psychiatrists and hospitalized twice in six years. He had strong obsessive fears and extensive phobias. He described his sexual life as a series of disgusting adventures. Chief character and behavior traits were compulsive. He remained a bachelor at 40 because he feared ruining some innocent girl through his perverse inclinations and curious habits, although he idealized womanhood in general. His psychoanalysis had many vicissitudes until his resistance and defenses finally collapsed after analysis of a series of 7 dreams which enabled the analyst to penetrate to his fundamental repression. These dreams are described.

The sister was a cultured, personable young married woman who left her home under duress and who remained in a limited area circumscribed by her fears. She was frigid sexually and her entire genital area was practically anesthetic, although painful during infrequent sexual intercourse with her husband. She also tended to develop sudden panic states which frequently produced carpopedal spasms or brief unconscious periods. She had been treated for supposed epilepsy. Previous experience of the analyst with her brother enabled him to procede much more actively with her analysis than with her brother's. She cooperated well at first but later became intensely resistant and developed a total inability for analytic work. She became violently ill in a store and was sent to a hospital but came for her regular analysis the next day. When she saw her analyst, she felt a rush of tender feelings but her thoughts were of her brother who, she then realized, was the most important figure in her life. She eventually penetrated her defenses and reconstructed details of her seduction by him and of their mutual sexual experiences. Her symptoms gradually disappeared later.

The varying defense forms and later special symptomatology of each of these patients were basically caused by the boy's regression to anal-sadism and by failure of the girl to progress beyond the early phallic period of the Oedipus conflict. 11 references.

Notes on Aggression. *Anna Freud, London, England.* Bull. Menninger Clin. 13: 143-51, Sept. 1949.

It is becoming increasingly understood that adequate knowledge of aggressive tendencies and attitudes is essential for an understanding of normal or abnormal emotional development. The psychoanalytic theories of aggression describe it as a quality of the pre-genital sex manifestations, as a function of the ego, and as the expression of the destructive instinct. Freudian psychoanalysis first observed children's aggression in conjunction with their sex behavior. Young children following their pre-genital sex urge were found to have little consideration for the feelings of others, hostility to environment, sadism, aggression and destructiveness. These qualities were first evident in the phallic phase of sex development in connection with the so-called Oedipus complex. Sadistic and aggressive attitudes after teething occurred also. The peak of aggressiveness coincided with the anal stage of sexuality, harmful and destructive wishes assuming equal importance with anal interests. This was called the anal-sadistic stage because of the preponderance of aggressive tendencies on the anal level.

The frustration theory tentatively classified aggression as an ego-instinct, implying that the ego controlled aggressive impulses in order to preserve life and guard the attaining of mutual satisfaction. An aggressive reaction occurred whenever an instinctual wish was ungratified or the child was deliberately thwarted by environmental intervention. Such occasions continually occur during pre-genital developmental phases because pre-genital sex wishes remain largely unsatisfied. In the theory of life and death instincts, all instinctive urges are grouped under the two forces of life and death, the former serving the purpose of preservation, propagation and unification of life and the latter the opposite, seeking to undo connections and destroy life.

Sex represents the life force and aggression the destructive force. Neither can be studied in pure form clinically as they combine with or act against each other to produce the phenomena of life. Development of aggression is inextricably bound up with the development of infantile sexuality. Aggressive urges manifest themselves differently on each sex developmental level, lending force to expressions of the child's love life. Fusion of sex and aggression enable the child to assert his rights to possession of love objects, to compete with rivals, etc. At some period in child development, aggression becomes incompatible with other urges or with the higher agencies in the individual mind. Aggression then becomes intolerable, is feared as dangerous, and is rejected by the mind. Methods for attempted elimination are repression, projection and displacement, turning inward, and sublimation of aggression.

The chief questions in child therapy are how far internal factors determine the fate of the aggressive urges and how far external factors exert influence. To correct the destructiveness, delinquency and criminality in children caused by stunted libidinal development, treatment must be

directed toward the neglected, defective aspect of their emotional developmen so that normal fusion between erotic and destructive impulses may follow and aggression come under the mitigating influence of the child's love life.

A Biographical Comment on Freud's Dual Instinct Theory. *Rudolf Ekstein, Ph.D., Topeka, Kan.* Bull. Menninger Clin. 13: 172-75, Sept. 1949.

The author is interested in throwing light on certain biographic aspects of Freud's "Beyond the Pleasure Principle" which might lead to a fuller appreciation of certain personal problems of Freud that might have been a contributing cause for the formulation of the dual instinct theory, that is, the introduction of the death instinct theory.

Freud's dissatisfaction with the libido theory, new puzzling therapeutic experiences during and after the first world war, difficulties in understanding the compulsion to repeat painful experiences led to the introduction of the death instinct theory.

The following observations have no bearing on the truth or falsity of the theory itself but are presented in order to discuss certain personal, psychological aspects that may have contributed to the change in Freud's metapsychology.

Freud's oral cravings, the guilt connected with them, the beginning stages of the fatal illness (cancer of the jaw), his feelings about aging, found their projective expression in the theory that described the eternal struggle between Thanatos and Eros.

In his "Beyond the Pleasure Principle," Freud describes the play activities of a one-and-a-half year old boy, the unconscious meaning of which relates to the child's ability to tolerate his mother's departure and return. This observation is used by Freud, as it seems almost the sole empirical basis of the new theoretical formulation. One may wonder why such a small event made such a powerful impression on Freud.

We assume that the little boy Freud mentions was really his grandchild, Ernst Halberstatdt. Ernst's mother was Freud's beloved second daughter, Sophie, whose death occurred shortly before Freud announced the dual instinct theory. We also feel that the facts of chronology speak in favor of Ernst as the child of the literature.

If this conjecture is correct, Freud's statement in "Beyond the Pleasure Principle," "if one has to die oneself and if one has to lose at first one's beloved ones through death, then one would rather want to submit to an inexorable law of nature than chance," receives new meaning.

Freud's dictum of the "soft but persistent voice of the intellect" was his strong defense in standing up under the strain of the world war, the untimely death of his daughter, the fate of the grandchild, his own age, illness and awareness of destructive impulses. The most powerful source of psychological discovery, then, seems to be awareness of inner struggle, inner conflict, mastery of one's own destiny. 11 references.

12. Psychologic Methods

Rorschach Test Differences Between Family-reared, Institution-reared and Schizophrenic Children. *William Goldfarb, Foster Home Bureau, New York, N. Y.* Am. J. Orthopsychiatry 19: 624-33, Oct. 1949.

Normal individuals are able to assume both concrete and abstract attitudes but abnormal persons, such as schizophrenics, are restricted to the concrete attitude. Children reared in institutions from their earliest infancy develop into a relatively homogenous group of markedly deviating personalities. They illustrate the results of deprivation from birth of a warm, stimulating engagement with a constant, adult, parent person. Institution children do not develop normal patterns of anxiety and self-inhibition but give a history of aggressive, distractible, uncontrolled behavior. They have meager, undifferentiated, passive, apathetic primitive personalities showing a definite trend to inferior intellectual achievement. Institutional children have at times been improperly diagnosed as schizophrenic but these 2 groups are radically different in basic developmental structure.

An experimental comparison of Rorschach test responses in schizophrenic, institutional, and foster home children was made on 3 groups of 8 children each, the latter being used as controls. All the subjects were Jewish. The Rorschach test showed both similarities and differences between the institutional and schizophrenic groups; both were deficient in rational control, regard for reality, consistent drive for intellectual and social attainment, and emotional maturity. Significant differences were also evident in some Rorschach factors, the schizophrenic group showing a greater perseverance trend, greater productivity, and a more positive tendency to popular response.

These differences are explained by the different anxiety levels of the 2 groups. The schizophrenic child shows profound anxiety in response to his primary psychotic disorder. The institution child has little or no anxiety. Comparing them with the foster home children, the institution children were found more typically indifferent to success, without rise in tension, unaffected by competition, and experiencing neither guilt nor shame.

This study indicates that, from the practical viewpoint, complete reliance should not be placed upon the Rorschach test alone with children, especially when delineating and separating institutional and schizophrenic patterns. It is necessary to utilize varied technics and approaches, including interview, play, case history, and the available wide range of psychometric and projective technics. 8 references. 6 tables.

A Comparison of the Test Performances of the Brain-Injured and the Brain-Diseased. *Robert M. Allen, Ph.D., Miami, Fla.* Am. J. Psychiat. 106: 195-98, Sept. 1949.

This paper compares the performances of brain-injured with brain-diseased veterans on the Wechsler Bellevue Adult Intelligence Scale, Form 1. Emphasis is placed on the dysfunctions as observed in the testing situation and as interpreted from the objective test findings.

Two groups of patients were studied over a period of one year in the neurosurgical wards of a veterans' hospital. The brain injured (BI) group contained 50 patients who had sustained penetration of the encephalon, while the brain-diseased (BD) group included 36 patients suffering from pathology due to expanding lesions. The age ranges were 20 years to 55 years for both groups. The neurologic findings had been established in each case prior to testing.

The results of testing disclose that in the three areas of the Wechsler Bellevue Adult Intelligence Scale—full scale, verbal, and performance subtests—the BD group achieved higher ratings than the BI patients. Both groups were significantly better on the verbal items than on the performance subtests of the scale. The poorest results for the BD-BI groups were obtained in the following subtests: digit span, picture assembly, object assembly, picture completion, and digit symbol, in descending order of efficiency of achievement. The highest scores were obtained in vocabulary, information, and comprehension subtests.

The statistical study proved of little value in differential diagnosis. From a qualitative and descriptive viewpoint it would appear that the insidious effects of a brain injury may be more adverse than the effects of a brain disease. The rationale for this lies in the province of the neurologist for further probing. The psychologist enters this picture only so far as concomitant and residual personality factors are involved. The author does not feel that a satisfactory qualitative picture of function and process can be obtained from the statistics (four tables) included in he original report.

The discriminative value of a scatter-analysis of the subtest weighted scores is clearest with the BI group, since the overall functioning as reflected in these subtest weighted scores shows more marked and statistically significant discrepancies between the verbal and performance subtests. This paper is the fourth in a series of six publications devoted to a study of the encephalopathic by the author.

For purposes of scatter-analysis the author suggests use of the information subtest weighted score as the basal point for computing the deviations of the other 10 subtests. The order of the individual subtest deviations from information—most to least deviated—is: digit symbol, digit span, block design, object assembly, and picture arrangement.

The Use of Thematic Apperception Test in Psychotherapy. *Leopold Bellak, Blaise A. Pasquarelli, and Sydell Braverman, New York City, N. Y.* J. Nerv. & Ment. Dis. 110: 51-65, July 1949.

The Thematic Apperception Test (hereafter referred to as the TAT) is of greatest use in its ability to show the actual dynamic picture of basic conflict patterns. The present paper is concerned with the specific therapeutic application of the test.

The basic process of dynamic psychotherapy may be described as a process by which the therapist becomes acquainted with the life situations of the patient, first in their manifest form and then by finding common

denominators in the behavioral patterns, particularly as related to his symptoms. There are horizontal patterns, that is, the contemporary life situations, and vertical patterns, that is, the genetic patterns. As the psychiatrist gains insight into the common denominators in the patient's behavioral patterns, he may gradually interpret to the patient and the patient gains insight as he can see the common denominators.

In general, the TAT is an excellent way of studying both the horizontal and the genetic patterns, and valuable insight and cooperation frequently are gained when the patient first finds out, to his surprise, how he has reproduced unwittingly some of his most important problems.

The TAT can be used as the general basis of short psychotherapy in cases where it is necessary to proceed as rapidly as possible; where the patient has difficulty in associating; where the patient shows marked resistance to the interpretations given by the therapist; where the patient produces completely superficial or innocuous associations; where the subject is depressed and speaks little or not at all, so that the TAT provides one of the few methods for getting in contact with the patient.

The TAT may be administered as part of a battery of psychological tests or administration can be at the therapist's office with the examiner taking down the story in the usual manner, or the patient can be given the pictures to take home and told to write the stories himself. In essence, all these methods consist of having the subject tell some stories about the pictures he sees, stating what is going on in each, what led up to it and what the outcome will be.

While analysis and interpretation of the TAT usually is considered a lengthy procedure, for therapeutic use, however, a brief reading of the stories will provide the therapist with as much detailed information as he is likely to need before the stories are discussed with the patient. The method of choice in handling each story is to let the patient read it and elaborate on it if he can, then discuss it, with free association. After all associations have been made, the therapist steps in and discusses all the material again, with analysis and interpretation as indicated. One or more stories can thus be taken up during each session, and in this way therapy proceeds according to patterns revealed in the TAT stories.

In handling the TAT stories, the therapist should consider the material as he would a dream or fantasy and analyze on that basis. Or the story may be taken up as an almost direct statement of biographical material or emotional content connected to behavior patterns.

As in administering the TAT, the therapist who works with the test will find additional methods of using the material thus learned for psychotherapy and additional methods of analyzing and interpreting it.

In summary, the TAT can be used by the psychiatrist doing psychotherapy to get in a rapid survey of the patient's basic problems. At the same time, the test material itself can be used for interpretations to the patient. It can be used as associative material itself, or as the basis of further associations. While a valuable help in all forms of psychotherapy,

the TAT can be used with particular advantage in cases where there is general blocking, dearth of associations, resistance of any sort, protectiveness and depression with little verbalization.

In the original paper, five cases are presented to illustrate methods of interpretation and therapeutic applicability.—*Author's abstract.*

13. Psychopathology

Psychopathology of Encephalitic Blepharospasm (*Zur Psychopathologie des encephalitischen Blickkrampfs*). *Paul B. Jossmann.* Monatschr. f. Psychiat. u. Neurol. 117: 257-67, April-June, 1949.

The relation of encephalitis to sleep is admitted in the well-known term encephalitis lethargica. The interpretation of blepharospasm as a dissociation of sleep components provides a good starting point for an examination of the pathology of the hypnagogic phase. In blepharospasm, not only the somatic symptoms are demonstrable, but also to some extent the fact that the patient is conscious permits a study of the psychic peculiarities involved. Slotopotsky has shown that Bell's phenomenon, hitherto considered as the typical somatic sign of sleep, occurs also during the process of falling asleep, in persons about to faint or die, and as a transitory phenomenon in narcosis. Bell's phenomenon, therefore, belongs to the hypnagogic phase.

In blepharospasm it is the dissociation of the sleep components which is responsible for the pathologic manifestation. Once the patient actually falls asleep, blepharospasm ceases. Some patients even make a voluntary effort to go to sleep to get relief. The favorable effect of soporifics is emphasized. The isolation of the factors determining the somatic manifestation of the hypnagogic phase has its psychic correlate in compulsory ideas. All patients complain of anxiety during the initial phase. The patient is conscious of a break in his biologic and personal existence. Manifest compulsions are observed only in some cases, however, and it is possible that in many instances there is no longer any conscious reaction. Some patients describe a compulsory surge of memories in rapid sequence. The limited state of consciousness is due to some organic process and not to fatigue or the natural desire to sleep. The threat from this organic process to cause a break in the patient's personal and biologic existence forces the patient to resist. The continued and futile attempts to resist are manifested in rhythmic, time-bound compulsion. 31 references.

14. Treatment

a. General Psychiatric Therapy

Medically Prescribed Exercises for Neuropsychiatric Patients. *A. B. C. Knudson and John Eisele Davis, Washington, D. C.* J. A. M. A. 140: 1090-95, July 30, 1949.

Psychiatric illness has become the primary medical problem of the nation and of the world. On May 4, 1948 there were 53,097 neuropsychiatric patients in hospitals of the Veterans Administration, and it is esti-

mated that this will increase to 122,000 in 1965. The Physical Medicine Rehabilitation Service in these hospitals consists of 5 sections: physical therapy, occupational therapy, corrective therapy, manual arts therapy and educational therapy. The Chief of the service is a qualified psychiatrist and in many of the hospitals he is also certified as a neuropsychiatrist.

Physical exercises are considered to have a distinctive effectiveness in meeting the emotional needs of the patient. It is a means of communication to and by the patient and an aid in diagnosis and prognosis as well as treatment. Its value depends upon the skill and understanding of the physician in writing the prescription, and the ability of the therapist to modify the exercises in order to produce activity situation which will attract the patient into improved social adjustment. Exercises are aimed toward integration into a total therapeutic situation leading in the direction of higher levels of socialization. Thus the environment becomes motivated, enabling the therapist to create effective inter-personal relationships, and the patient to express his spontaneous and natural behavior on the sensory levels of activity. Socialization, however, is not the only therapeutic aim; corrective activities produce a higher level of aggression, allow a natural release of aggressive feelings and of guilt feelings, and result in narcissistic gratification. These exercises should start early, substituting activity for inactivity, and initiating constructive efforts toward ultimate rehabilitation. Such activities are classified as to: 1) form; 2) socialization; and 3) application to diseased entities when practicable within the range of increasing experience.

The functions of the corrective therapist in the neuropsychiatric hospitals are: 1) to give instructions to patients in activities prescribed individually by the physician, based upon the specific needs and abilities of the patient; 2) to provide adequate treatment for patients by the use of active exercise to re-educate the neuromuscular system to the maximum, and 3) to administer a program of scientifically prescribed exercises for patients on the general medical and surgical service. The functions in the general medical and surgical hospitals are: 1) corrective and remedial exercises; 2) training in the proper use of braces, crutches, artificial limbs and other prosthetic appliances; 3) exercise to prevent deconditioning phenomena; 4) self-care for daily living and independence, and 5) motivation for social, economic and other desirable psychologic adjustments.

Physical exercises provide a follow-up to electric and insulin shock therapy. They are prescribed for leucotomized patients, being graduated in complexity and speed to meet the changing and mental capacities from the early postoperative stuporous condition through the developmental phases of socialization. Elemental resistive and assistive exercises are combined with educational retraining methods to parallel mental re-activation and mental stimulation in the mute catatonic and stuporous patients. Psychologic exercises are added to assist the patient in regaining recognition of objects as to shape, design and utilitarian value. The various grades, types and intensities of corrective therapy activities provide a

helpful basis for meaningful behavior observations. Reports on corrective therapy show many examples of externalization through these activities of hostile combativeness and other behavior aberration. Stimulation of exercise is stressed for aged patients to train in activities essential to daily living, and to prevent the phenomena of deconditioning. Developing relationships of activity levels to personality changes establish a factual basis for determining and changing the aims of therapy in progressive treatment.—*Author's abstract.*

The Modern Treatment of Depression. *D. W. Abse, Charing Cross Hospital, London.* M. Press 221: 563-65, June 15, 1949.

Mental depression of a pathologic degree may occur in psychoneurosis as well as in certain psychoses, and the distinction between the psychoneurotic reaction-state and a psychotic illness may be difficult when depression is a prominent symptom and may require prolonged observation or lengthy psychiatric interviews. Most patients with psychoneurotic depression are not actively suicidal, and are ambulatory; therapy on an out-patient basis is usually necessary. In some cases distributive discussions with the patient are effective in relieving his depression; in some cases when the environmental "pressure" is severe, improvements in the patient's environment can be effected through social workers. In other cases prolonged analytic psychotherapy is indicated; in some cases the time required for such therapy can be reduced by the use of narcoanalysis, or by group analytic psychotherapy.

In the modern treatment of psychotic depression, various forms of convulsion therapy hold an important position. Electroshock (electric convulsion therapy, E. C. T.) "is now most frequently used". For patients who are adequately supervised at home and are not dangerously suicidal, electroshock therapy can be given on an out-patient basis. This is especially useful when a patient objects to hospital treatment and is not sufficiently deranged to be certifiable. The results of convulsion therapy are especially good in manic-depressive cases and in involutional depressions. In women in whom involutional depression of a mild type occurs at the time of the menopause associated with vasomotor disturbances, estrogen therapy may first be tried. If this does not relieve the symptoms electroshock therapy is indicated. In the milder forms of depression in men at the involutional period, the administration of amphetamine sulfate or dextroamphetamine sulfate ("Dexedrine") is often of value, and may so far relieve the symptoms of depression that electroshock therapy is unnecessary. When one of these drugs is used the usual dose is 10 mg. in the morning and 5 mg. in the early afternoon. Sodium amytal is also given at night. In the depressive states occurring in senescence and associated with restlessness and exhaustion, opium is of value given in the form of liquor morph. bimecatus.

When depression is a part of a schizophrenic psychosis, electroshock therapy is often of value, but it is usually necessary to proceed with insulin therapy against the residual disordered ideation. When psychic depres-

sion shows no response to convulsion therapy, and there is a constant risk of suicide, prefrontal leucotomy should be considered, as this may result in a "more cheerful and placid mental state," even though delusions and other psychotic symptoms persist. 7 references.

Psychiatric Rehabilitation. A Follow-up Study of 200 Cases. *Donald S. Smith (Lt. Comdr., M.C., U.S.N.) and Mary E. Hauthorne (Lieut. j.g., H (W), U.S.N.R.).* U. S. Nav. M. Bull. 49: 655-69, July-Aug. 1949.

Results of follow-up study of 200 cases of psychiatric rehabilitation are presented. The largest groups contained 84 cases of combat and operational fatigues, 43 of anxiety neuroses, and 24 patients with personality disorders. Patients with combat fatigue had had severe battle experiences and showed insomnia, anorexia, nightmares, loss of weight and restlessness. Operational fatigue included more chronic cases, usually following prolonged sea duty with minimal combat, and having predominant psychosomatic symptoms. Chief symptoms of anxiety neurosis were tenseness, headache, anxiety, tremors and depression. Cases of personality disorders had histories of instability, inadequacy, or schizoid tendencies aggravated by service conditions.

Average duration of the rehabilitation program was 27 days. All patients were given a complete medical work-up by specialists to eliminate organic disease and then followed a compulsory standardized daily schedule including one hour of psychotherapy daily for two weeks, group therapy one hour, occupational therapy one hour, athletic exercise one hour and an educational program. Each patient received a high caloric diet, nicotinic acid 50 mg. and thiamin chloride 5 mg. three times daily, and 15 units of liver extract three times weekly for two weeks.

Follow-ups were by mail and necessarily based on a man's own report of his readjustment to civil life, but 94% of cases reported themselves either "excellent" or "good" and 11 as "poor." Further hospitalization for additional psychotherapy was required by 27 patients. Of the entire group, 19 are still on active duty and 162 working satisfactorily in civilian life. 8 tables. 1 figure.

Poison-Pen Therapy. *John G. Watkins, Ph.D., Washington State College, Pullman, Wash.* Am. J. Psychotherapy 3: 410-18, July 1949.

The possibilities in cathartic therapy seem not to have been fully realized. Abreactions, whether conducted under hypnosis or under a drug-induced narcosis, become most effective only in so far as they fully exploit two principles. First, they should be carried to a state of emotional and physical exhaustion by constant prodding. Second, there should be subsequent interpretation and post-narcosis re-integration of the dynamic material. Failure to observe these two points may account for much of the reported failures of abreactions.

Abreactive therapy is indicated only in neurotic and not in psychotic or pre-psychotic personalities. The Rorschach test is perhaps the best indicator of ego strength in this respect. A number of its indices may tell whether it is safe to employ catharsis or whether there is danger of precipitating a suicidal or psychotic reaction.

Suicidal tendencies in a depressed woman were relieved following the writing of a cathartic letter (reproduced in the paper) to her mother. In this she released a great amount of hostility outward which previously had been directed inward to a dangerous degree. Following the success of this experience the technic of suggesting cathartic letter-writing to patients was employed with good results in several cases. Writing has some advantages over oral verbalizing. Suggestions are given for initiating this reaction and for deriving the most therapeutic benefit from it. —*Author's abstract.*

b. Drug Therapies

Desoxycorticosterone in Certain Psychotic Cases. *Ruth Jens, M.D., Salem, Ore.* Northwest Med. 48: 609-11, Sept. 1949.

An experiment in the use of desoxycorticosterone in psychotic cases is described. Desoxycorticosterone, or Doca, as it is commonly called, is a synthetic product which simulates or may be identical with an adrenal cortical hormone. The drug was used to treat 16 patients, all of whom had been unsuccessfully treated. Prior treatment employed included electric or metrazol shock or insulin therapy, or all three, and psychotherapy.

The patients included schizophrenics, manic depressives and one involutional melancholic. Treatment consisted of subcutaneous injection of Doca, an Organon Inc. product, in 5 mg. doses. New patients were given one injection daily, until maintained clinical improvement warranted decreasing the dose. Theoretical considerations which preceded the experiment are presented. Briefly, Doca was given with the thought that its use would produce the beneficial effects of shock without the use of the shock medium, i.e. without electricity, insulin, or metrazol.

Four patients, schizophrenics and manics, recovered. Six patients improved sufficiently to take a responsible part in ward activities. Of these latter, 4 had previously been a total loss. Two improved to a limited degree, not to the extent where they can assume responsibility. Four failed to improve. These 4 include both manic depressive and schizophrenic patients. Sixteen controls were run simultaneously using peanut oil injections. Peanut oil is the diluent in the Doca ampule. Of the controls, one, a manic depressive, improved sufficiently to go home. She had had remissions after previous acute attacks over a period of twenty-five years. There was no favorable change in the remaining 15 controls. —*Author's abstract.*

Non-convulsive Biochemotherapy with Histamine. A Preliminary Report on the Treatment of Hospitalized Schizophrenic, Manic-Depressive and Involutional Psychotics. *A. M. Sackler, M.D., M. D. Sackler, M.D., R. R. Sackler, M.D. and J. H. W. van Ophuijsen, M.D., New York, N.Y.* J. Nerv. & Ment. Dis. 110: 149-60, Aug. 1949.

Evidence is reviewed suggesting that some of the psychoses have a common causative physiochemical mechanism, which may be interference with cerebral oxidative processes. The concept that electroconvulsive therapy may operate to rectify such dysfunction (with the implication of the role of histamine) is supported by the following observations of the authors.

1. A vasodilating agent is apparently liberated by passage of an electric current through living tissue.
2. An apparent fasting gastric hypoacidity is prevalent in psychotic states.
3. Gastric hydrochloric acid increases during ECT.

A series of 38 hospitalized women, including schizophrenics, manic-depressives and involutional psychotics, was chosen for this study. They were given a course of (11 to 70, average 14) histamine injections (intravenous, subcutaneous and intramuscular) with doses ranging from 1 to 3 mg. of the histamine base twice a day. Ten patients (over 26%) manifested some symptomatic improvement during a single course of therapy or within one week following its termination, 5 of them sufficiently to be placed on convalescent status.

Of the 10 improved, 8 had been hospitalized six months or less, re-emphasizing the importance of early diagnosis and therapy. Neither the character of the psychiatric disorder nor the age of the patients seemed to influence the outcome in this small series.

In over 800 individual histamine intramuscular injections no major untoward complications occurred. The treatment is not unpleasant for the patient nor burdensome for the staff. The authors believe the results to be as good as those they have obtained with ECT, and conclude that 1) histamine per se has a definite place in the treatment of mental disease, 2) that it is probably one of the elements comprising a complex that may be responsible for the beneficial effects of the shock therapies, and 3) that further investigation might be most rewarding, particularly in less severe episodes and earlier stages of mental disease. 57 references.—*Author's abstract.*

Nonconvulsive Biochemotherapy with Histamine and Electric Convulsive Therapy. A Comparative Study on Hospitalized Psychotics with a Control ECT Series. *A. M. Sackler, M.D., M. D. Sackler, M.D., R. R. Sackler, M.D. and J. H. W. van Ophuijsen, M.D., New York, N.Y.* J. Nerv. & Ment. Dis. 110: 185-97, Sept. 1949.

Twenty-five female schizophrenic and manic-depressive patients previously refractory to histamine (i.e., who did not attain convalescent status after one course of histamine injections) were placed on a regimen of ECT. Twenty-five patients who had been under routine ECT served as a control group.

Of the post-histamine patients, 12 (48%) were benefitted by ECT, 4 of those benefitted (16%) achieving convalescent status. Of the control group, 6 (24%) improved following ECT, 3 of them (12%) attaining convalescent status. For purposes of comparison, the group (38 patients) which had originally received histamine alone is reviewed; 26% had improved, half of them (13%) attaining convalescent status.

The combined histamine plus post-histamine ECT group showed 50% improved, 24% sufficiently to be placed on convalescent status.

On the basis of this limited series, it appears that nonconvulsive histamine biochemotherapy affords results comparable to those attained with ECT. The confusion and memory defects following ECT were not observed after histamine. In addition, 1) the 25 histamine-refractory patients given ECT achieved results superior to those attained with a control series receiving ECT only, and 2) it appeared that fewer electroconvulsive treatments might be required to achieve convalescent status in patients who had received a prior course of histamine injections, suggesting a potentiating effect.

The authors conclude that, if large scale studies corroborate their findings, the administration of routine nonconvulsive histamine biochemotherapy in mental hospitals before resort to ECT should at least double the number of patients now leaving mental hospitals as a result of ECT. 9 references. 1 table.—*Author's abstract.*

Use of Potassium in Protracted Insulin Coma. Preliminary Report. *William Stark, George Washington University, Washington, D.C., and S. Eugene Barrera, Albany Hospital and Albany Medical College, Albany, N. Y.* Arch. Neurol. & Psychiat. 62: 280-86, Sept. 1949.

Failure of diabetic patients in protracted coma to respond to adequate administration of dextrose shows that other metabolic disturbances must have occurred in addition to disturbed carbohydrate metabolism. The marked diaphoresis produces significant changes in water metabolism with associated disturbances in both extracellular and intracellular electrolyte balance. Electrolyte equilibrium is especially important in connection with potassium in diabetic acidosis. Certain significant changes have been shown to occur during insulin induced hypoglycemia. Serum potassium may be markedly decreased, with a correspondingly more severe and deeper shock in such patients when in coma. Successful results from the use of insulin and dextrose in the crush syndrome and of potassium chloride orally in protracted diabetic coma have recently been reported.

Potassium was therefore administered in an effort to produce reversibility in 2 cases of protracted diabetic coma which had failed to respond to adequate treatment with insulin and dextrose. The first patient received potassium chloride 2 Gm. by gavage every two hours and the second 1 Gm. intravenously over a twenty-minute period. The first patient came out of coma two and one-half hours after the first dose and the second patient in five minutes.

While the results obtained in these 2 cases are not necessarily credited solely to the use of potassium, some changes were evidently initiated by it, especially in the patient treated intravenously. This is the first reported case of protracted coma treated by the intravenous administration of potassium and nature of the changes produced require further study. The cardiac effect of potassium is well established and its intravenous administration must be carefully handled. Potassium, 10% solution, is administered intravenously through a 1 cc. tuberculin syringe and injected slowly at the rate of 0.02 to 0.04 Gm. per injection. The cardiac rate is definitely lowered, the rhythm changed, and a beat commonly dropped. Another injection is not given until the normal cardiac rhythm is restored. Calcium for intravenous use should be immediately available. Potassium has since been repeatedly administered intravenously with no ill effects.

It is believed that fundamental treatment for protracted diabetic coma should include the intravenous administration of adequate dextrose and electrolytes, especially potassium. It is also believed that potassium chloride 2 Gm. four times daily should be given orally during insulin therapy. 26 references.

c. Psychotherapy

Comparison of Adjunct Group Therapy with Individual Psychotherapy. *Robert E. Peck, Atlanta, Ga.* Arch. Neurol. & Psychiat. 62: 173-77, Aug. 1949.

Results obtained in a series of 153 patients treated by group therapy in a mental hygiene clinic were compared with 68 who received only individual psychotherapy. The latter would ordinarily have received group therapy but it was impractical for various reasons. Some patients had received uninterrupted treatment for about two years and others for only a short time. Some were seen frequently and others infrequently. Improvement was divided into the following 5 categories: 1) relationship with the physician; 2) improvement in (a) pathologic attitudes, (b) symptoms, (c) adjustment, and (d) insight. Each patient was analyzed in terms of improvement or unimprovement and none was considered improved unless advancement was shown in at least 3 categories.

Results are tabulated according to diagnosis. Sixty-six per cent of those who received group therapy were improved but only 51% of those treated individually, a difference of 15%. The number of patients in each group who became psychotic was negligible. Analysis of results by categories of improvement showed that patients who received group therapy tended to develop better insight and adjustment and to show greater change in their pathologic attitudes than those who received individual treatment. Combat veterans did noticeably better with group treatment. 4 references. 2 tables.

Some Results of Narcoanalysis in Psychoneuroses. (*Quelques resultats de la narcoanalyse des psychonoevroses*). *Lue d'Hollander, Louvain.* Acta neurol. et psych. Belgica 49: 369-73, June 1949.

Four clinical observations revealed the usefulness of narcoanalysis in psychoneuroses. A hypodermic injection of 0.25 mg. of atropine is followed by 10 cc. of 5% (0.5 Gm.) pentothal injected slowly into the vein of the patient, who is asked to count aloud until a clouded state is obtained. After the description of the treatment of the 4 cases, the author concludes that from a diagnostic standpoint narcoanalysis permits one to discover the affective conflicts or to understand their psychologic mechanisms. He reported one complete recovery in 2 cases of sexual impotence, temporary improvement in 1 case of obsessive neurosis, and appeasement but not cure in 1 chronic case of hypochondriasis. There are no proofs that such favorable results would not be obtained by prolonged and patient psychotherapeutic interviews, but it is definite that narcoanalysis constitutes a new and convenient weapon in the therapeutic arsenal of the psychiatrist.

Narcoanalysis (*Sur la narco-analyse*). *J. Lhermitte.* Bull. Acad. nat. méd. 113: 257-60, March 22, 1949.

Narcoanalysis, which would be more correctly designated as narcopsychoanalysis, is in reality a form of psychoanalysis and is employed for the same purpose as a therapeutic measure. The use of the narcosis is designed to reveal the patient's subconscious more rapidly and with less psychic trauma, by obliteration of the patient's conscious control and removing inhibitions. Like psychoanalysis, it should be employed only by a trained physician. It is not in any way suitable for medicolegal use in the investigation of persons accused of crime. Baumgartner and André Thomas, in the discussion of this paper, fully upheld this conclusion in regard to the medicolegal use of narcoanalysis.

d. The "Shock" Therapies

Results of Topectomy in the Treatment of Psychiatric Conditions. *John J. Weber, New York, N.Y., Robert G. Heath, New Orleans, La. and J. Laurence Pool, New York, N.Y.* New York State J. Med. 49: 2278-82, Oct. 1, 1949.

The operation of topectomy as it is now performed by Pool consists of a subtotal, bilateral and symmetrical removal of Brodmann's cortical areas 9 and 10. Resection is confined to the cortical gray matter only and the amount of tissue removed is approximately 25 to 35 Gm. on each side. Among 95 patients operated on to date there have been no operative fatalities. Five patients out of 42 reported in the present series have had seizures which were controlled by medication and none of the patients had any other serious complications as a result of operation.

The patients reported on were all followed for at least six months after operation, personally or by mail, and all were hospitalized in a mental institution at the time of operation or else institutionalization was

imminent and operation was undertaken to forestall it if possible. The patients ranged in age from 20 to 69 years and the duration of illness varied from one and one-half to 20 years. Shock treatment (insulin or electric) had been tried without success in all but 2 patients. Psychotherapy had been used in most cases (including psychoanalysis in several) without apparent benefit, and the prognosis was poor for all of the patients. Thirty-two of the 42 patients were diagnosed as schizophrenia and the remainder included affective reactions of various types, obsessive-compulsive and phobic neuroses, and psychopathic personality. Good results were obtained in 11 schizophrenic patients and 7 non-schizophrenic patients without any demonstrable loss of intellectual ability, conscientiousness, social responsibility or initiative.

Psychiatric management is discussed and particular emphasis is given to the role of postoperative support from the patient's family as well as from the psychotherapist. The indications for operation are also considered and criteria are offered for the selection of patients to be operated upon.—*Author's abstract.*

Prefrontal Operations for the Treatment of Mental Illnesses. *J. Lawrence Pool, New York, N.Y.* Ann. Int. Med. 31: 424-28, Sept. 1949.

Prefrontal operations for the treatment of mental illnesses are described and the rationale and indications for such operations are discussed briefly. Emphasis is placed on various types of leucotomy or lobotomy (severance of white matter) and on limited cortical ablation (gyrectomy or topectomy). Topectomy is less likely to result in lasting postoperative complications than is a full-scale prefrontal lobotomy, as it sacrifices less cerebral tissue. Topectomy is usually more effective than transorbital lobotomy. The incidence of postoperative seizures is approximately 10% after lobotomy and about 16% after topectomy. However, in the author's hands the operative mortality rate after topectomy in over 100 cases has been zero. About 20% of the cases operated upon by lobotomy or topectomy are markedly improved, another 20% considerably improved, the remainder showing little or no improvement. 26 references.—*Author's abstract.*

Clinical Observations Concerning Schizophrenic Patients Treated by Prefrontal Leukotomy. *Jay L. Hoffman, Bedford, Mass.* New England J. Med. 241: 233-36, Aug. 11, 1949.

This clinical report emphasizes the quality of the results of prefrontal leukotomy on a group of chronic schizophrenic patients treated in a Veterans Hospital by the standard Freeman-Watts operation. It points out that the evaluation of results will be greatly influenced by the frame of reference used. If the postoperative condition of the patient is compared with the condition of the patient prior to the onset of the psychosis, all of the treatment results in this series must be considered to be failures, since the post-leukotomy adjustment of none of the patients here described compares favorably with the pre-psychotic picture. If, however, the postoperative condition of the patient is compared with his condition during

the period of psychosis, then treatment of practically all of these patients who have survived can be described as successful. For, from the quantitative viewpoint, none of the patients manifest, after leukotomy, the extremes of inacceptable behavior displayed prior to the operation. Evaluation of treatment results is made difficult also by the fact that the leukotomized patient cannot express any helpful subjective data as to whether he is better after the operation than he was during the period of psychosis. A third difficulty in evaluating results is implied but not stated specifically. This is that the relatives most enthusiastic about reporting good results are likely to be those whose judgment, by reason of their strong emotional involvement with the patient, is most defective.

The clinical picture of those operated on, prior to operation, was quite uniform. With one exception, they were all schizophrenics hospitalized for 2 to 20 years. They generally resided on wards for the most disturbed patients. They were excited, assaultive, combative, destructive, usually hallucinated and delusional. Characteristically, they appeared to be tortured, agonized and distressed beyond measure. Most had made one or more suicidal attempts. Practically all had previously received convulsive therapy, deep insulin shock therapy, or both. By all criteria now known the future for these patients offered little more than a continuation of the past.

The postoperative picture, when compared to the psychotic period, was in striking contrast. If still hallucinated, they were no longer disturbed by their hallucinations. No longer did they require mechanical or chemical restraint, or seclusion. They had ground privileges, went home on short or long visits, required relatively little supervision while in the hospital. They participated in various hospital activities, generally as spectators but occasionally more actively.

The striking feature in the post-leukotomy picture was that, without exception, there had been a greater or lesser—usually the former—diminution in capacity for emotional experience and expression and a marked loss of drive and initiative. Reports by physicians and nurses were monotonously alike—dull, apathetic, listless, without drive or initiative, flat, lethargic, placid and unconcerned, child-like, docile, needing pushing, passive, lacking in spontaneity, without aim or purpose, preoccupied and dependent. A number of illustrative case reports are included.

The author urges a realistic appraisal of the operation as a valuable procedure, when indications for its use are present, but one which exacts a penalty while conferring a boon. In the opinion of this author the indications in chronic schizophrenia are two: 1) when the patient is chronically and seriously assaultive, combative, homicidal or suicidal so that his very life, or the life of others, is jeopardized by an uninterrupted continuation of this state, and 2) in a very few selected instances where the return of such a patient, after leukotomy, to the family circle of a distraught mother or other relative can be justified for humane reasons. —*Author's abstract.*

Clinical and Pathological Observations on Relapse after Successful Leucotomy. *T. McLardy and D. L. Davies, London, England.* J. Neurol., Neurosurg. & Psychiat. 12: 231-38, Aug. 1949.

Return of mental symptoms after their disappearance or marked amelioration for a substantial period following bilateral frontal leukotomy has been described in a small proportion of cases by most psychiatrists who have published a detailed analysis of their postoperative clinical results. Nowhere in the literature, however, has the occurrence of relapse after recovery been correlated with the actual position and dimensions of the leukotomy lesions as established after death. The main purpose of the present paper is to describe the anatomic findings in the six most striking cases with a history of such a relapse out of the leukotomy brain material and case records being collected at the Maudsley Laboratory, and to discuss practical and theoretical implications of the findings in these cases and others in the literature in which the surgical damage can be reliably evaluated.

Anatomic features of the six cases are discussed, together with those of other "psychosurgical" cases in the literature in which the extent of the lesions was determinable during life. Clinical features of the six cases are reviewed together with those of other relapsed cases in the literature of "psychosurgery" in which diagnostic details are available.

The data most relevant to the discussion are summarized in the following table:

TABLE

Summary of data from cases 1 to 6

Case No.	Main pre-operative symptoms	Duration of illness	Plane of cuts		Segments cut (out of 10)	Duration of recovery	Environmental factor in relapse
1	Delusions of reference and unworthiness; agitated depression; facial tics	9 mos	L. A/M	R. A/M	3	3 yrs 8 mos	+
2	Depression; delusions of poverty and sin	5 yrs 8 mos	M	P.	6	1 yr 8 mos	+
3	Paranoid delusions; tenseness; agitation	7 mos	M	M	8	1 yr 3 mos	—
4	Paranoid delusion; auditory hallucinations; violence	2 yrs 10 mos	M/P	M	10	1yr 1 mo	+
5	Obsessional rumination and activity; depression	4½ yrs	M	M	10	9 mos	—
6	Catatonic phases of excitement and stupor; no remissions	15 yrs	A/M	M	8	2½ mos	—

Four of the cases (Nos. 3, 4, 5 and 6) can reasonably be described as having suffered practically complete bilateral isolation of the prefrontal cortex from its long fibre connections, gyrus rectus and posterior area, 9

being the only regions consistently spared. The symptoms concerned in these four cases are fairly varied. Bilateral "isolation", therefore, of practically the whole prefrontal cortex does not prevent the remanifestation, after their relatively prolonged disappearance or striking amelioration, of many of the commonest psychotic symptoms. Hence, either the "isolated" cortex can in course of time become effectively reactivated through relays of subcortical U fibres, or through largely intracortical pathways, and can redetermine abnormal behaviour, or else psychopathologic symptoms can develop anew without participation of the prefrontal regions.

The author concludes that:

1. Many of the symptoms and syndromes characteristic of affective and schizophrenic functional psychoses can recur after practically complete isolation of the prefrontal cortex from its long fibre connections. Some chronic schizophrenic symptoms, at least, can not only persist but can disappear and then recur after full bilateral prefrontal lobectomy. Many neurotic symptoms can recur after disappearance following removal of more limited amounts of prefrontal cortex.

2. The illness which recurs is practically always of the same type as the preoperative one.

3. There are indications that the power of environmental influences for both good and ill may be augmented after the operation; responsiveness to the environment might allow considerable scope for prevention of relapse in at least a proportion of cases.

4. Case 1 also touches on the problem of localization in the frontal regions in relation to type of personality change and to creative ability.

5. The facts call for some more plastic concept of brain function such as has been advocated by Lashley (1941) and Golla (1943, 1946): plasticity in recovery of abnormal as well as normal function. 2 references.—*Author's abstract.*

Preliminary Report of Changes After Prefrontal Leucotomy. *Asenath Petrie, London.* J. Ment. Sc. 95: 449-55, April 1949.

The difference in personality and intelligence before and after prefrontal leukotomy was studied in 20 patients, including 16 women and 4 men. The time elapsing between the time of operation and the test was from two to three months. The average age of the patients was 41.5 years, and their mean Wechsler I.Q. was 105.87. They had been classified as depressed, paranoid, anxious or obsessed. The cognitive tests included the Wechsler scale of verbal and performance tests, the Porteus mazes, and proverbs from the Stanford-Binet scale. The temperamental tests included objective measurements of temperament such as persistence, speed-accuracy and suggestibility as well as some of the newer methods.

Instead of summarizing his findings, the author presents a composite picture of the post-leukotomy patient. In this patient one finds less marked neuroticism as evidenced by diminished suggestibility, a smoother work curve and his attitude of self-evaluation. The patient shows more speed

and less accuracy, and less persistence in situations calling for endurance. The patient blames himself less for fewer undesirable traits which he ascribes to himself, since he now regards them as inevitable. The patient now lives less in the past and more in the present and future. He has lower motor perseveration scores and a lower goal, his evaluation of his own performances being more in accord with reality. The verbal intelligence test scores drop as well as tests where impulsiveness is penalized. He finds learning more difficult, but routine tasks once learned come easier. The patient is also somewhat less distractible.

The post-leukotomy patient, therefore, shows changes in the conative, affective and cognitive spheres. It is unjust, however, to consider apparent losses in verbal ability, without noticing apparent gains, such as less variation in performance and better speed. Further research is needed. A second report will be made on the present series when the eight-month retests have been completed. A table shows the critical ratios of certain differences observed after leukotomy in intellectual and non-intellectual qualities. 13 references.

Thalamotomy: Neuropsychiatric Aspects. *E. A. Spiegel, H. T. Wycis and H. Freed, Philadelphia, Pa.* New York State J. Med. 49: 2273-74, Oct. 1, 1949.

In contrast to the procedures on the frontal lobe (lobotomy, lobectomy, or topectomy), thalamotomy leaves the association systems between the frontal lobes and the other parts of the cortex intact and interferes only with the connections between the frontal lobe and the dorsomedial (dm) nucleus of the thalamus by placing small lesions in the latter nucleus.

Thirty-seven patients, mostly institutionalized cases of schizophrenia, depression, and severe compulsion neuroses, have been operated on by means of the previously described stereoencephalotome. In the successfully operated cases tension, anxiety, depression, irritability, agitation, compulsive behavior, hallucinations, and, in some instances, paranoid delusions were favorably influenced, sometimes after a latent period of several weeks.

Of 27 cases, observed from four to twenty-two months after operation, 5 returned home with almost complete working capacity, 10 returned home with reduced working capacity, 7 are more manageable at the hospital, 5 are unchanged, and 6 have relapsed. The relapses may be due partly to the smallness of the lesions, particularly in the initial cases, and partly to the fact that other systems, perhaps frontohypothalamic connections, may participate in the mechanism of emotions and compensate for the loss of the dorsomedial nucleus.

In this respect it is interesting to note the case of an agitated, hallucinating schizophrenic patient who improved to such an extent after the first thalamotomy that he could be considered nearly normal. One and one-half years after the operation he relapsed. Since a second thalamotomy

increasing the lesion of the dorsomedial nuclei failed to change his condition, a small lesion was placed on either side of the posterior hypothalamus. Following this procedure, he quieted down and became easily manageable. His parents are now trying to readjust him on a farm.

Undesirable side-effects usually were rather slight, particularly since the authors' improved technic permits one to produce the thalamic lesions through a single puncture canal on either side.

In 3 cases there were defects of memory lasting for several months, and in 2 cases a diminution of initiative was noted. One of these patients had previously been subjected to prefrontal lobotomy at another hospital. This latter patient is also more careless in personal appearance.

It would seem that one of the chief advantages of thalamotomy is that a relief of emotional disorders may be obtained and that most of the undesirable personality changes following prefrontal lobotomy, such as distractibility, childishness, facetiousness, or a lack of tact or discipline, do not appear. Since none or only minimal scarring of cortical tissue results, epileptiform convulsions did not appear in this material in either the early or later postoperative stages (observation up to nearly two years). The electroencephalograms showed either no changes or very slight transitory slowing, particularly in the frontal leads.—*Author's abstract.*

Thalamotomy and Mesencephalothalamotomy: Neurosurgical Aspects (Including Treatment of Pain). *Henry T. Wycis and E. A. Spiegel, Philadelphia, Pa.* New York State J. Med. 49: 2275-77, Oct. 1, 1949.

The authors describe their method of producing subcortical lesions in the human with a stereotaxic apparatus (stereoencephalotomy). The apparatus consists of two parts, a superstructure and a base. The base is anchored to the skull by four stainless steel pins or rubber plugs and is aligned so that its frame is parallel to a line joining the inferior border of the orbit with the external auditory canal. A gauge carrying 5 calibrated pins which touch 5 tattoo marks on the scalp insures proper placement of the apparatus at the time of x-ray and at operation. The electrode of the carrier on the superstructure is oriented with reference to the pineal gland if calcified, or to structures in the neighborhood of the third ventricle visualized by encephalography. With these data and with the aid of brain specimens sectioned in the planes of the stereoencephalotome one can compute the coordinates necessary to produce the lesions desired. The authors placed electrolytic lesions in the following structures: 1) in the dorsomedial nucleus of the thalamus (thalamotomy) in mental disorders; 2) in the spinothalamic systems in the midbrain alone (mesencephalotomy), or combined with unilateral or bilateral lesions of the dorsomedial nucleus of the thalamus (mesencephalothalamotomy) for the treatment of intractable pain. Six cases of pain are reported with satisfactory results. —*Author's abstract.*

Subshock Insulin Therapy in the Neuropsychiatric Section of a General Hospital. *R. Finley Gayle, Jr. and Claude L. Neale, Richmond, Va.* Dis. Nerv. System 10: 231-34, Aug. 1949.

The use of insulin in the treatment of psychotic disorders is not new. As early as 1923 it was noted that insulin improved the mental status of diabetic patients who showed symptoms of depression. From 1940 to the present time various authors have discussed the use of sub-shock insulin in the treatment of psychoneuroses.

Although we have found that insulin in sub-shock dosage is of greatest benefit in anxiety states, we have used it in a number of other conditions as well. In the series of cases here discussed it has been used in conjunction with electric shock in selective cases of dementia praecox and also in some cases of involutional melancholia. In the psychoneurotic patients electric shock was used with the insulin in only a few cases.

In this paper the technic of administering insulin in sub-shock doses is described along with the theories as to the mode of action. Complications are rare and termination of treatment with glucose intravenously or via nasal tube is relatively easy. Results in a group of 136 cases are discussed. Of 58 cases of psychoneurosis, with anxiety states, 15 were considered recovered and 37 improved. There were 41 cases of other types of psychoneurosis of which 16 were considered socially recovered and 19 others improved. Insulin was used in a few cases of involutional melancholia when electric shock therapy was considered contraindicated and in conjunction with electric shock in 26 cases of dementia praecox. Of these 26 patients, 10 were considered socially recovered and 10 were improved. Attention was called to the fact that sub-shock insulin treatment is only a part of the total treatment. Results suggest that sub-shock insulin therapy alleviates tension symptoms, shortens the period of hospitalization, and renders the patient more susceptible to psychotherapy.—*Author's abstract.*

In Regard to a Contraindication to Insulin Therapy (*A propos d'une contre-indication de l'insulinthérapie*). *J. Van Laere, Courtrai, Belgium.* Acta neurol. et psychiat. Belgica 49: 331-33, May 1949.

There are definite contraindications to the use of insulin shock therapy that are usually carefully observed; among these is the presence of pulmonary tuberculosis. The case reported shows, however, that in certain instances such a contraindication can be disregarded without ill results. In this case, the patient was a girl 17 years of age with bilateral pulmonary tuberculosis, in the treatment of which a bilateral pneumothorax had been done. She developed severe symptoms of schizophrenia, including minor symptoms of the catatonic type. A series of electroshock treatments was first given, which resulted in quieting the patient, but did not have any effect on the essential psychotic symptoms. Insulin therapy was then employed because of the fact that the psychotic symptoms, although severe, were of recent development. These symptoms showed progressive improvement during the period of insulin therapy, and only 27 comas were induced,

instead of the usual series of 40 comas. The pneumothorax was maintained, and the physical condition of the patient also improved. The patient has been under observation for eleven months and has shown no return of any mental symptoms. The pneumothorax has resulted in improvement of the pulmonary condition also. There was a definite risk in the use of insulin therapy in this case, but its use has been fully justified by the results obtained.

Present Status of Electric Shock Therapy. *Lothar B. Kalinowsky, New York, N.Y.* Bull. New York Acad. Med. 25: 541-53, Sept. 1949.

The original electric shock technic with alternating 60 cycle current, as introduced by Cerletti and Bini, is still the standard procedure. Lessening of memory impairment and of electroencephalographic changes were first claimed by Friedman and Wilcox, who introduced a unidirectional current in which only one phase of the usual biphasic current is used, but this effect was more definite in the subsequent development by Liberson of a brief stimuli technic. It is true that some favorable reports have appeared but no convincing statistical proof of its claimed superiority over ECT or even over insulin was given. Fatalities in uncomplicated ECT are practically unknown, and pre-existing diseases are hardly aggravated by the treatment. Hypertension and myocardial damage, so frequent in the group of involutional agitated depressions, are not likely to increase during a convulsive treatment. Tuberculosis is also no contraindication. Pregnant women were treated in the last month of their pregnancy without any harm to mother or child. The fact that, in epileptic patients, other diseases are not aggravated by the convulsions, explains why most of the originally postulated contraindications for ECT were unjustified. Children as well as patients beyond 70 and 80 years of age can be safely treated.

The most harassing complication continues to be the occurrence of fractures. Special position of the patient hardly prevents them but they are favored by tight restraint. As a preventive measure we routinely induce a subconvulsive response to make the patient relax prior to the convulsive stimulus. Another measure is the slow stepping-up of the current, the so-called glissando technic which we found unreliable. A reliable but dangerous method to prevent fractures is the use of curare. Our own experience and increasing evidence in the literature show that curare is more dangerous than the complications it is supposed to prevent. The organic reactions during ECT are not limited to memory impairment but, like all organic reactions, they show emotional changes. Thorough psychologic testing as well as psychiatric follow-ups have convincingly ruled out any permanent organic damage. Likewise temporary is the electroencephalographic evidence of brain damage after ECT. This is in accordance with the absence of neuropathologic evidence of irreversible

brain damage. Indiscriminate use is easily promoted by the possibility of ambulatory treatment. Yet, this as such is not objectionable and will have an increasingly important place in our fight against mental illness.

No complications were ever encountered that could not be dealt with just as well in an office. The disadvantages of ambulatory treatment are more than compensated by its social importance. But it should be requested that only psychiatrists with special experience in this field be allowed to give office treatment, that one or two specially trained nurses be available, that the treatment not be given to patients unaccompanied by relatives, and that the patient be kept in the office for at least one hour after the treatment. Clinic facilities for ECT should be provided to an increasing extent in general hospitals and, more important, in state hospitals.

The value of ECT in the affective disorders is generally accepted. Its almost specific effect in clearing up depressions after four or less treatments is the most convincing proof that this somatic method in psychiatry is a therapeutic approach in the right direction. The prevention of suicides should be re-emphasized because we all know of instances where misrepresentation of the treatment in newspapers and motion pictures discourages patients and relatives from accepting the only treatment which prevents suicides in depressions. Contrary to depressions, manic episodes were often reported to be unresponsive to ECT. This is not so when 1 to 3 treatments are given on several subsequent days. Preventive use of ECT once a month in manic-depressive patients was successfully tried.

Failures belong almost exclusively in the group of involutional psychoses of the paranoid type. They respond less well and need longer treatment. The spectacular results in the affective disorders discouraged psychiatrists regarding its application in schizophrenia. Here the quick response is often followed by a relapse but routine application of 20 or more treatments, even in cases of early improvement, makes results comparable to insulin therapy. Of the subtypes of schizophrenia, catatonic excitements respond best; next is acute paranoia. Catatonic stupors, wrongly considered the best prospects for ECT, often relapse. The poorest results are obtained in hebephrenia. Complete failure is often encountered in "late" paranoid patients and similar syndromes in the middle-age group. Another group usually refractory to ECT is that of hypochondriasis in the older age bracket. A "prognostic electric shock test" is a useful tool in the selection of chronic schizophrenic patients for psychosurgery. This test, consisting of 3 or 4 convulsions, removes temporarily the reversible part of a psychosis and will tell how far the patient's personality is still preserved under a psychotic syndrome.

A discussion on ECT in schizophrenia would be incomplete without stressing the importance of maintenance treatment with one or two occasional ECT's given whenever an incompletely improved patient begins to become worse. It is not generally recognized that ECT is of some

value for acute psychotic manifestations of certain organic conditions, such as general paresis prior to malaria or penicillin therapy, Parkinson's disease or psychomotor epilepsy. A few rarer indications seem to have in common the blurring effect of ECT which can be used in neurodermatitis and other itching skin conditions and in withdrawal symptoms of addicts. The largest group not responsive to ECT is that of psychoneurotic patients. It cannot be emphasized enough that contrary to psychotic patients, some neurotic patients may be harmed by ECT. The only group of neurotic patients where ECT is indicated, are the reactive depressions. The question of psychotherapy in all cases treated with ECT takes up much space in the literature but remains unsettled. Our experience led us more and more to the conclusion that psychotherapeutic measures and shock treatments have, for the most part, different indications and rarely overlap.—*Author's abstract.*

A Possible Psychologic Complication and Contraindication to Electric Shock Therapy Modified with Curare. Report of a Case. *Henry D. Lederer, Veterans Administration Hospital, Chillicothe, Ohio, and Henry E. Sprang, University of Cincinnati College of Medicine, Cincinnati, Ohio.* Arch. Neurol. & Psychiat. 62: 287-92, Sept. 1949.

Report is presented of a paranoid schizophrenic patient treated by electric shock therapy modified by curare, who exhibited panic during the administration of curare before each of 20 electric shocks. He sweated profusely, was extremely irritable, trembled, and showed a facial expression of marked fear and agitation. There was not only no improvement at the end of the course of treatment, but his paranoid schizophrenic behavior was worse.

The sense of weakness and choking that follows use of curare may be most alarming for certain patients whose psychoses are essentially defenses against what is considered to be a threatening world. The inability to perform any protective motor act might also produce panic in a patient whose psychoses are defenses against homosexual, castrative or less defined forms of attack. More intense psychotic mechanisms would be developed to protect the patient against his panicky feelings. Such a sequence is a psychologic complication to treatment and is believed to have occurred in this case.

This report is presented to focus attention upon psychologic complications and contraindications to electric shock therapy. It is believed that further psychodynamic studies should be made of reactions to electric shock treatment and its modifications in order to determine psychologic complications and contraindications and possibly provide refinements in the administration and understanding of electric shock therapy. 4 references.

Plasma Calcium Fractions After Electric Convulsion Treatment. *Kurt Salomon, M.D. and Beverly Wescott Gabrio, B.A., St. Louis, Mo.* Arch. Neurol. & Psychiat. 62: 99-104, July 1949.

Studies on the blood chemistry during electric convulsion treatment have shown varying results, owing to the fact that the analyses have been made at different times after the convulsion. The ion balance, with particular reference to calcium, has been a point of special interest. In this investigation, plasma calcium levels of 22 unselected psychiatric patients, determined immediately before and immediately after an electrically-induced grand mal convulsion, showed an increase after the convulsion in each case, the average increase being 15.2%. The initial increase in the total calcium of the plasma immediately after the convulsion was followed by a gradual decrease, which varied with the patient, and the preconvulsion calcium level was reached in all cases within 90 minutes after the convulsion.

The calcium values of ultrafiltered plasma showed that the increase in total plasma calcium after the convulsion may be attributed to an increase in the nonultrafiltrable calcium fraction (largely protein-bound calcium); the ultrafiltrable calcium fraction remained essentially the same before and after the convulsion. Plasma protein levels were also increased immediately after the convulsion, and the electrophoretic patterns of the plasma of one patient indicated that all fractions were increased proportionally. Hematocrit determinations on the blood of 5 patients showed an increase in each case of the ratio of red blood cells to plasma. An average value of 10.9% decrease in circulating plasma volume was found.

It seems as if hemoconcentration does occur after an electrically-induced grand mal convulsion, thus accounting for the reported increases in several plasma constituents. However, possibly some other mechanism is in operation to account for the fact that the plasma calcium fractions do not increase proportionally after the convulsion.—*Author's abstract.*

A New Technique of Convulsant Therapy in Psychiatry (*Une nouvelle technique de chocs convulsants en psychiatrie*). *Paul Cossa, Nice, France, and Henri Gastaut, Marseille, France.* Ann. méd. psychol. 107: 184-87, July 1949.

With the use of Cardiazol (Metrazol) to induce convulsions, the dosage of the drug necessary to obtain a satisfactory convulsion is difficult to determine, as it varies from one patient to another and also in the same patient in the course of prolonged treatment. If the convulsion induced by Cardiazol is aborted or retarded, the patient suffers severe anxiety.

It has been found, however, that if some visual stimulation precedes the administration of Cardiazol, a satisfactory convulsion can be induced with a dose of 4 cc. of the drug, and the patient has no postconvulsion anxiety. Before the drug is administered, a stroboscope is placed in

front of the patient and close to his eyes and lights are flashed at a rhythm of 15 per second, as a rule (with some patients 13 or 17 per second). Immediately after this visual stimulation is begun, 4 cc. of Cardiazol are given intravenously. Within a few seconds myoclonic movements begin, limited chiefly to the muscles of the face and forearms. When the classic convulsion follows, the light stimulation is stopped, but it must not be stopped when the first myoclonic movements occur, or they will cease, and further visual stimulation will be necessary. In the cases treated by this method so far, the dose of 4 cc. of Cardiazol has proved effective in inducing a satisfactory convulsion. With further experience, some modification of this dosage may be necessary. With this method of treatment, the patient does not remember the administration of Cardiazol or the convulsion, but only the flashing of the light before his eyes. There is no anxiety and no fear of further treatments. This absence of anxiety and fear is considered one of the chief advantages of this method of convulsant therapy. The method has not been in use for a sufficient length of time to determine its late therapeutic results.

NEUROLOGY

1. Clinical Neurology

Syncope: A Review. *Russell D. Williams, Winter Veterans Administration Hospital, Topeka, Kansas.* Ann. Int. Med. 30: 1143-55, June 1949.

Cardiovascular syncope is essentially a discrepancy between the volume of circulating blood and the capacity of the vascular bed. Causative factors are classified as electrical, pertaining to the nervous system, pump or heart, and the pipe lines or blood vessels. The first includes hypoglycemia, epilepsy and hysteria. In hypoglycemia, it is assumed that the decreased carbohydrate oxidation does not permit sufficient chemical activity to support consciousness. Epilepsy and syncopal attacks may be difficult to differentiate as fainting may be accompanied by auras, convulsions, etc., and may occur in the horizontal position. Epileptic attacks may also be accompanied by marked vasomotor changes. Fainting may be a manifestation of hysteria and then commonly occurs in public, does not result in injury, and unconsciousness may persist for an hour or more despite a prone position.

Syncope resulting from cardiac disturbances may be caused by disease processes in the heart, reflexes, or a combination of these. Tachycardia is an occasional cause. The Adams-Stokes syndrome denotes a damaged conduction system with partial or complete heart block. From three to fifteen seconds of asystole may be necessary to produce syncope. Oxygen transport and not the heart rate is the important factor. Reflex or vagovagal syncope is important as it contains the fatal but often preventable varieties. The afferent limb may be anywhere in the sensory distribution of the vagus. The efferent limb is composed of the cardiac motor fibers

of the vagus. The actual mechanisms are unknown. Advanced valvular heart disease with obstruction may cause syncope on exertion, both an inadequate cardiac output and reflex factors apparently being present. Myocardial weakness may be a cause.

Pipe line or blood vessel trouble is frequent, the reflex vasodepressor type being the most common form of fainting. In this, fainting results from an increased vascular bed capacity with inadequate venous return and cardiac output. Etiologic factors are physical and psychological. The exact nature of the peripheral vascular changes is unknown but they are largely dependent upon the autonomic nervous system. The effect of muscle tone upon capacity of the venous bed is important. Another reflex type may be from the carotid sinus to the peripheral and cerebral vascular beds. Only some causes of increased carotid sinus reflex sensitivity are known but an unstable autonomic nervous system is apparently a factor in the cerebral group. Postural hypotension may rarely cause syncope in spinal cord disease. There are a few rare but interesting miscellaneous types. These include cases of polycythemia with obstruction of the superior vena cava, back injuries, large doses of procaine for local anesthesia, dissecting aneurysm of the aortic arch, and the hyperventilation syndrome.

The biologic meaning of common syncope is discussed. Normal people have an extensive unconscious mind which harbors strong and sometimes fantastic emotional feelings remaining from infancy and childhood. The autonomic nervous system produces syncope in response to these unconscious fears. 6 references. 1 table.

The Guillain-Barré Syndrome or Acute Infective Polyneuritis. *C. P. Petch, London, England.* Lancet 2: 405-08, Sept. 3, 1949.

The original descriptions of "polyradiculoneuritis" by Guillain, Barré and Strohl are alluded to, and attention is drawn to earlier less known accounts of the same disease under other names, particularly that of Laurens. The first English descriptions of acute infective polyneuritis are shown to have no differences which would nowadays be regarded as significant. It is concluded that the Guillain-Barré syndrome, acute infective polyneuritis, and the polyneuritis with facial diplegia of Laurens and American workers are one and the same.

Eight fresh cases are described, one in detail. In summing up these it is pointed out that the clinical picture is strikingly characteristic, and that recognition must rest on this. Its features are a symmetrical flaccid paralysis with abolition of the tendon-reflexes, and with well marked subjective sensory symptoms without much objective change. The patients are afebrile when muscle weakness begins, but may have had an antecedent febrile illness. Facial paralysis is common, but affection of the other cranial nerves is unusual. Complete recovery is the rule, but rarely the patient may die. An increase in the C.S.F. protein without increase in cells or other abnormality is usual but not pathognomonic. Diagnoses based mainly on isolated C.S.F. findings must be treated with reserve.

At least 16 postmortem examinations are on record, but all are quite unhelpful in establishing the etiologic factors. There are in fact no specific pathologic findings. Polyneuritis and degeneration of nerve roots may be found, with occasional changes in the cord. The cause of the condition must be regarded as unknown, and its infective nature is an assumption based largely on animal transmission experiments which have proved impossible to repeat.

Criteria for differentiation from poliomyelitis are: 1) absence of fever at time of paralysis; 2) tendency to spread after onset, often in an ascending manner; 3) symmetry of paralysis; 4) more obvious subjective sensory symptoms; 5) absence of residual paralyses; 6) C.S.F. changes. The high C.S.F. protein of diphtheritic polyneuritis is recognized, but differences in the distribution of paralysis are indicated as in the characteristic paralysis of accommodation in diphtheria. Symptomatic treatment is considered all that is possible, and no help was obtained from use of prostigmine.—*Author's abstract.*

Clinical Study of Guillain-Barré's Syndrome (*Klinische Beitrag zum Guillain-Barrés Syndrom*). *Paul Gal.* Wien Zschr. f. Nervenhlk. 2: 192-212, 1949.

In a detailed study of 24 cases of the Guillain-Barré syndrome observed during the past ten years at the Neuropsychiatric Clinic of the University of Debrecen, Hungary, the idea of an epidemic incidence of this disease seems to be refuted. It seems probable that a combination of some virus infection and allergic factors may explain the etiologic factors of the syndrome. The latter has been described as an acute, curable, radiculoneuritis with albumino-cytologic dissociation of the cerebrospinal fluid. It occurs chiefly in adults, has an equal sex-incidence and is not associated with fever unless preceded by infection. The paralysis is slowly progressive, beginning in the distal muscles and frequently involving the whole extremity. There may be pain on pressure or spontaneous pain. Paresthesia is a constant finding but hyperesthesia is rare. Ataxia is characteristic, as is the dissociation syndrome. Of the 24 cases in the present series, 11 were primary and 13 secondary. There was no electric degeneration reaction and total paresis developed in only 2 cases. Lesions of the cranial nerves occurred in 50% of the cases. Four cases of optic nerve involvement have been reported in the literature. In one case the symptoms were purely cerebral and in another predominantly meningeal. Anisocoria was reported in one case and bladder disturbances in 3 cases.

The diagnosis of the Guillain-Barré syndrome is not difficult in uncomplicated cases. The chief conditions to be considered in differential diagnosis are Heine-Medin's disease and the polyneuritides. Differential criteria from Heine-Medin's disease are tabulated. The features distinguishing this syndrome from arsenic and other polyneuritides are discussed. It is suggested that it may form an entity with Landry's ascending

paralysis. In 9 of the cases described, the paralysis was of the ascending type. Occasionally paralysis may develop in a day, in other cases over a period of years. The average duration of hospitalization in this series of cases was from seven to forty-seven days. Three patients were cured and discharged after twenty-three days, 25 patients after forty-seven days. Recurrence took place in one patient ten months after discharge, but his condition improved following six weeks of treatment.

Prognosis is uncertain in the first few days and even after six weeks the patient cannot be considered safe. The mortality rate is 20%. Older patients have less resistance, but even young subjects may succumb to the disease. The cause of death was respiratory paralysis in 2 cases, bronchopneumonia or asthma in 2 cases, and in one case the cause of death was not known. Death may ensue after three to forty-two days. Complete recovery is the rule. One patient had a slight but definite residual atrophy of the thenar group of muscles.

Treatment is purely symptomatic. Foci of infection should be removed. Other measures recommended include administration of vitamin B_1, C and N, atriphos, strychnine, spinal puncture, faradization, massage and x-ray therapy of the spinal cord. Since it is impossible to exclude arsenic polyneuritis in the early stages, sodium thiosulfate should be given until diagnosis is assured. Convalescent serum, and convalescent cerebrospinal fluid three days later, were administered in one case, but the patient died of respiratory paralysis within the next few days. Fever therapy yielded excellent results in one case and in 2 other cases marked improvement followed intercurrent febrile disease. The results of fever therapy as a non-specific skeptophylaxia suggest an allergic origin of the Guillain-Barré syndrome. 47 references.

Rheumatic Brain Disease as a Cause of Convulsions. *J. F. Whitman and Louis J. Karnosh, Cleveland, Ohio.* Cleveland Clin. Quart. 16: 136-41, July 1949.

Although rheumatic fever has long been considered a protean process, the manifestations of brain involvement are not well recognized. An obliterating proliferative endarteritis of a non-specific microscopic appearance, involving short segments of small meningeal and cortical vessels, is alleged to be the basic lesion in chronic rheumatic disease. Such lesions have been incriminated as precursors of a large number of neurologic and psychiatric aberrations. The degree to which clinical developments occur depends on the size, number and locale of the foci, and further by the age and personality of the patient at the time of involvement.

Generalized convulsive seizures may result from rheumatic brain disease and 5 cases are presented in which that diagnosis was made, after other possible epileptogenic factors were eliminated. The average age of the patients at the onset of seizures was 38.6 years and attacks had recurred over an average period of seven years. This age incidence is

a marked contrast to that in classical "idiopathic epilepsy", the onset of which is uncommon beyond 20 years of age and extremely rare in patients older than 30 years.

Of the criteria for the diagnosis of rheumatic brain disease prior to necropsy, the clinical demonstration of rheumatic heart disease is most imperative and a history of acute rheumatic fever is desirable. Three of the 5 patients presented had definite history of migratory polyarthritis and all had rheumatic carditis. There was an average latent period of eighteen years between the acute joint symptoms and the manifestation of nervous system pathologic factors, indicating that brain lesions develop during an asymptomatic period while the patient may enjoy good general health. It is difficult to evaluate inflammatory activity in the brain although rises in the sedimentation rate and leukocyte counts and on carefully kept temperature charts may be helpful. Electroencephalography appears to be of no specific value; the records of all 5 cases were abnormal but showed no single characteristic feature. Since rheumatic processes in the brain are frequently insidious, they may cause more psychiatric and neurologic illness than is suspected. A conservative consideration of this disease along with other known causes of convulsions seems warranted.—*Author's abstract.*

Incidence of the Sensorio-Motor Syndrome (*Fréquence du syndrôme sensorio-moteur*). *G. de Morsier and P. Richard, Geneva, Switzerland.* Rev. méd. Suisse rom. 69: 643-52, Sept. 25, 1949.

The term sensorimotor syndrome has been employed instead of the older term, "hemianesthesia sensitivo-sensorial," because it has been found that where there are hemianesthesia and other sensory disturbances on one side, there is generally some motor disturbance on the same side, such as muscular hypotonia, weakness, tremor and incoordination. A study of this sensorimotor syndrome in various types of disease of the central nervous system showed that this syndrome was most frequently found in traumatic encephalopathy, being present in 41 cases of this type and absent in 45 cases. In 80 cases of inflammatory diseases of the central nervous system this syndrome was present in 16 cases (20%) and absent in 64 cases (80%). In 27 cases of carbon monoxide poisoning the syndrome was present in only 2 cases. 10 references.

Concerning Voluntary and Involuntary Movements. The Role of the Corticospinal and Subcorticospinal Mechanisms with a Concept as to the Origin of Movements. *Abraham M. Rabiner, Brooklyn, N. Y.* Bull. New York Acad. Med. 25: 566-76, Sept. 1949.

The corticospinal or pyramidal tract travels together with subcorticospinal tracts through the corona radiata, internal capsule, brain stem and spinal cord. All these efferent motor pathways end about the anterior horn cells and bring the collaborated influence of the higher centers on the final common motor pathway to the muscles. Complete destruction of

these efferent motor pathways produces spastic paralysis, hyperreflexia and the Babinski toe sign and may abolish the superficial reflexes. The influences producing these functional alterations travel in separate fibers so that incomplete pathologic changes may result in some of these symptoms and permit other functions to continue normally. For the motor cortex to function normally, the subcortical basal ganglia must be intact, and abnormal involuntary movements or altered tonus distribution resulting from pathologic changes of the basal ganglia may not be manifest in the musculature if the motor cortex or the corticospinal tract is diseased. Every type of motor activity is the end product of afferent stimuli, entering through the sensorium, and ultimately influencing the transmission of efferent impulses from the motor cortex through the corticospinal tract to the anterior horn cells in the cord. Abnormal involuntary movements other than convulsive seizures do not occur if the basal ganglia are normal. It would appear that these basal ganglia nuclei arrest molecular displacements, entering through the sensorium, and do not permit their transmission through the corticospinal pathways. Disease of any of these subcortical structures permits the particular type of dyskinesia, thus not adequately influenced, to pass on to the corticospinal tract and appear in the muscles as abnormal involuntary movements.—*Author's abstract.*

The Syndrome of Sensorimotor Induction in Disturbed Equilibrium. *L. Halpern, Rothschild-Hadassah-University Hospital, Jerusalem, Israeli.* Arch. Neur. & Psychiat. 62: 330-54, Sept. 1949.

Two cases of disturbed equilibrium having many similar motor, visual, tactile and haptic disturbances are reported. Motor disturbances were connected with body posture, both patients showing right sided disturbed equilibrium. Unilateral underrating of weight, size and distance was present as a result of the basic disturbance of equilibrium and not of sensibility on the same side. Both cases showed deviation in perception of coordinates of a room, the first case with both eyes together but the second only with the right eye. This also influenced the visual perception of geometric figures. Both had deviation of hand writing and the first case showed dissolution of color perception, though red was perceived in addition to white and black, showing that the dissolution resulted from the basic disturbance and not optic atrophy. Bilateral deviations in perception of the vertical and horizontal were shown in the tactile and haptic spheres by the second case, but only on the right side by the first. Deviation on walking forward and sideways showed a similar tendency to deviation from the vertical and horizontal in other spheres. These 2 patients showed the common, fundamental quality of an inductive effect of pathologic deviation in motor and other spheres regardless of individual differences and with practically the same syndrome of systematized sensorimotor disturbances.

The first patient gradually showed appreciable improvement, progressive improvement in equilibrium being apparent after about seven months. His color vision became normal but the visual fields remained contracted.

There was no evidence of a space-occupying lesion and a tentative diagnosis of multiple sclerosis with chief localization in the right cerebellar hemisphere was made. This was supported by the remission and course of the disease.

The second patient also improved, disturbances of equilibrium on the right side subsiding almost completely and the sensory phenomena finally becoming undiscernible. Disturbance of superficial and deep sensibility persisted on the right side, however. This case could not be properly diagnosed but, because of remission of the chief disability, it was believed to be a special form of multiple sclerosis with partial localization of the lesion on the right side of the cerebellum. 24 references. 11 figures.

A Case of Nervous Crises of Doubtful Semiology. Effects of Ventriculography (*A propos d' un crise nerveuse de seméiologie douteuse. Effets de la ventriculographie*). *W. Auburn.* Ann. méd.-psychol. 107: 486-88, May 1949.

In the case reported, convulsive crises occurred with or without complete loss of consciousness, and were preceded by a sensation of constriction of the chest and suffocation. The electroencephalogram showed only slight slowing of the rhythm. A ventriculogram showed the left ventricle slightly dilated and distorted; this finding was not confirmed by an encephalogram, after the introduction of a gas by the lumbar route several days later. The symptoms were not relieved by phenobarbital, but later it was found that the attacks could be stopped by simple suggestion. A later electroencephalogram was entirely normal. The convulsive crises disappeared under adequate psychotherapy and the patient was discharged. Six months later she was readmitted because of severe headaches and visual disturbances, but there were no convulsions. A large hematoma was found and evacuated. The headaches were relieved by this procedure, but the ocular symptoms were not relieved, and the vision was reduced.

In this case the clinical signs of the hematoma developed slowly, not becoming evident until a year after the first ventriculogram, which is considered responsible for its development. This is a rare complication of ventriculography, not attributable to any error of technic, but it suggests that ventriculography should not be done too routinely in the absence of definite clinical signs or electroencephalographic abnormalities.

Serum Injuries of the Peripheral and Central Nervous System (*Ueber Serumschäden des peripheren und zentralen Nervensystem*). *Klara Weingarten.* Wien. Zschr. f. Nervenhlk. 2: 252-58, 1949.

Owing to the practical significance and relative infrequency of serum injuries of the brain, a detailed report of 3 cases is presented, together with a discussion as to whether neural symptoms can be attributed exclusively to allergic factors. An etiologic antigen has been assumed to be responsible

for certain cases of rheumatic, monarthritis and polyarthritis, transitory hemiplegia, recurrent cranial nerve paralysis and epileptoid attacks, but has rarely been actually demonstrated.

The patients here described were definitely allergic to the foreign protein of the serum. In the first case of this series, an injection of tetanus serum following a gunshot injury caused no reaction. A second injection following a foot injury some time later was followed by a local and general reaction and progressive atrophy first of the right, and later of the left arm. Polyneuritis has been known to follow injection of tetanus, diphtheria or typhoid serum. It develops eight to ten days after the injection, either alone or combined with other symptoms of serum disease. The fifth and sixth pair are most frequently affected. The cerebrospinal fluid is normal in some cases, or exhibits dissociation in others. The very low chronaxia of the fifth and sixth nerves is emphasized. Less common cases of lumbosacral serogenetic polyneuritis with spastic symptoms and pyramidal signs have also been reported. In the second case reported, these symptoms developed shortly after intraspinal serum therapy. It has been shown in experimental animals that direct intracerebral injection of antigen in sensitized animals accelerates and facilitates the development of anaphylactic shock.

In the third patient, cerebral symptoms followed injection of tetanus serum by the fractional Besredka method. Eight days after the injection, the eyelids, face and feet became swollen and the patient suffered from intense itching. The power of speech was lost but he did not become unconscious. There followed a diminution in power in his right arm and leg and diminished sensibility on the right side. After four days his condition improved. Neurologic examination revealed a spastic hemiparesis, of slight degree, with retrogressive motor aphasia. In spite of two attacks of fever in the hospital, the symptoms retrogressed.

Very few cases of serogenetic cerebral lesions have been reported, and almost all are from the French. In all these cases of serum injury of the nervous system, whether peripheral, spinal or cerebral, one must assume a hypersensitivity of the vegetative nervous system, partly constitutional, partly due to overexertion of the vegetative system of bodily or mental nature. A case of familial serum disease has been reported. Further study will be needed to clarify the connection between the vegetative nervous system and serogenetic injuries of the nervous system. 25 references.

Visual Scotomata with Intracranial Lesions Affecting the Optic Nerve. *Alan J. Mooney and Adams A. McConnell, Dublin, Ireland.* J. Neurol., Neurosurg. & Psychiat. 12: 205-18, Aug. 1949.

Current theories on the causation of central scotomata associated with space-occupying intracranial lesions are reviewed. It is pointed out that central scotomata occur most frequently when the lesion is placed close

to the optic foramen and when pressure on the optic nerve is directed either from above or below. It is suggested that tumors or nodules of tumor in this situation must affect the ophthalmic artery and the branches of this artery which pass directly to the optic nerve. The presence or absence of scotomata would therefore depend on whether or not a particular vessel or group of vessels were involved and not on any special vulnerability of the macular fibers of the optic nerve to direct pressure. Anatomic reasons for this suggestion are presented and relevant case histories cited. —*Author's abstract.*

Isolated Unilateral Spinal Accessory Nerve Palsy of Obscure Origin. A Report of Three Cases. *John D. Spillane, United Cardiff Hospitals, Wales.* Brit. M. J. 4623: 365-66, Aug. 13, 1949.

Three cases of isolated paralysis of the spinal accessory nerve are reported in which the only symptoms were weakness and wasting of the sternomastoid muscle and the upper fibers of the trapezius of the same side. The first case was that of a 25-year old soldier who had always been in good health except for a poorly defined, dull, aching pain about the right shoulder during the previous year. It usually occurred after prolonged exercise. The neck was asymmetrical and there was weakness and wasting of the right sternomastoid and upper right trapezius muscles. No other abnormalities could be found. The second case was that of a 31-year old soldier with obvious asymmetry of the neck and pain about the right shoulder and neck. The patient stated that his right shoulder had not felt right for some years but his past history was otherwise negative. The right sternomastoid muscle appeared to be missing and the upper part of the right trapezius muscle showed considerable weakness and wasting. No other pathological condition could be found. The third case was that of a 30-year old woman who stated she had had acute pain on the left side of her neck some six years previously which had lasted about a month and prevented her sleeping. She also had some local tenderness of the head and neck during that time. This subsided spontaneously and she had no more symptoms until three years later when an asymmetry developed about her neck and certain movements were difficult. Examination found nothing abnormal except noticeable weakness and wasting of the left sternomastoid muscle and upper fibers of the left trapezius.

The cause of this condition is unknown though the selective wasting strongly suggests a neuritic rather than a muscular lesion. Careful examinations showed no other abnormality, adjacent muscles being normal. Search of the literature showed no other reports of such a condition, though unilateral hypoglossal nerve paralysis has been described. The lesion is believed to be in the spinal accessory nerve and may be similar to Bell's palsy. 5 references. 3 figures.

A Case of Retrobulbar Neuritis Occurring in Tuberculous Meningitis Treated by Streptomycin (*Un cas de névrite rétro-bulbare au cours d'une méningite tuberculeuse traitée par streptomycine*). *P. Jacob, A. Favory and Maillard.* Bull. et mém. Soc. méd. d. hôp de Paris 65: 587-89, April 29, 1949.

Before the discovery of streptomycin, tuberculous meningitis usually ran such a rapidly fatal course that complicating symptoms rarely developed. Retrobulbar neuritis was occasionally observed, however. The use of streptomycin, with resulting prolongation of the course of tuberculous meningitis, has led to the recognition of a symptomatology not previously observed, or only rarely observed. But although various ocular symptoms have been reported recently, the authors have not found a case of retrobulbar neuritis in tuberculous meningitis reported in recent literature. In their case the patient was a girl 17 years of age who, on admission to the hospital, showed the typical symptoms of meningitis. The diagnosis of tuberculous meningitis was established by finding tubercle bacilli in the cerebrospinal fluid. At the time of admission there were no visual disturbances.

Streptomycin was given parenterally for nearly two months before any visual disturbance was noted, involving the left eye. The dosage of streptomycin employed was 2 Gm. daily for about three weeks, then 1 Gm. daily. Ophthalmologic examination showed vision in the right eye to be normal, but vision in the left eye was much reduced; a diagnosis of retrobulbar neuritis was made. The patient stated that she had noted some vague visual disturbances in the left eye some six months previously, i. e., before the onset of the meningitis. While there was some question as to whether the retrobulbar neuritis was a toxic reaction to streptomycin or was due to involvement of the optic nerve in the meningeal infection, it was decided to continue the streptomycin therapy. Streptomycin was given intraspinally, 0.10 Gm. every four days; at first the eye condition showed no improvement, but within two months, there was definite improvement, and within another two months, vision and the visual fields of the left eye were entirely normal. While intraspinal administration of streptomycin was stopped, parenteral administration was continued until a total of 187 Gm. had been given.

2. Anatomy and Physiology of the Nervous System

An Interpretation of the Effects of Combinations of Stimuli (Patterns) Based on Current Neurophysiology. *Joseph Wolfle, University of Witwatersrand, Johannesburg, South Africa.* Physiological Rev. 56: 277-83, Sept. 1949.

A new hypothesis of neural interaction based upon present neurophysiological knowledge is outlined. Transmission across a synapse or functional junction of two neurones is one way only. Several presynaptic neurones may however combine to make a synaptic zone and form a single

postsynaptic neurone. Various factors such as chemical agents determine whether or not a synapse will transmit an impulse from a presynaptic to a postsynaptic neurone. The neurone is absolutely refractory, not responding to any additional impulse, and excitability correspondingly reduced for from 0.5 to 3.0 milliseconds, immediately after an impulse has been conducted by a postsynaptic neurone. A relatively refractive or subnormal period of about 15 milliseconds follows. During the latter, the neurone is only refractive to weak stimulus energies and will transmit an impulse if the stimulus energy is sufficiently strong at the synapse. The impulse then transmitted is of normal amplitude. If an impulse too weak to produce a response during the absolutely refractive period is followed after 0.1 to 0.5 milliseconds later by another inadequate impulse along the same neurone, the sum of both may excite the postsynaptic neurone. This is called temporal summation. The combined effects of impulses which would have been individually ineffective reaching a synaptic zone from two or more neurones may also excite the postsynaptic neurone. This is known as spatial summation.

Summation of the effects of more widely timed impulses apparently results from the activity of chains of internuncial neurones, so arranged that a circus movement is started if any one part of the chain is stimulated. Impulses at synapses outside the chain will also be given off by some of the neurones forming the chain. If any one of these impulses is subliminal however, and reaches the synapse synchronously with a subliminal impulse from elsewhere, their spatial summation may produce a supraliminal effect. Summation does not necessarily result if impulses from different neurones arrive simultaneously at a synaptic zone. Impulses from certain neurones seem to inhibit impulses from other neurones upon arrival at the synaptic zone. This is called direct inhibition.

Summarizing, combinations of any two stimuli activate both the neurones that each would have activated if acting alone and also certain other neurones. It should be remembered, however, that, as the possible result of direct inhibition at other synaptic zones, some neurones responding to a separate stimulus will not respond to the combination. 31 references. 2 figures.

Clinico-anatomical Studies of Frontal Lobe Function Based on Leucotomy Material. *A. Meyer, Bonn and T. McLardy, London. Dept. of Neuropathology, Research Laboratory, Maudsley Hospital, London.* J. Ment. Sc. 95: 403-417, April 1949.

The present study is based on an investigation of 95 brains mainly of patients dying from five months to five years after leukotomy. A full microscopic study of the specimens was made in one-third of the total number and in one-half of the five-month survival cases. It has to be emphasized that fully recovered patients sometimes die of intercurrent disease outside of the hospital and it is therefore difficult to obtain an autopsy. Following an anatomic discussion of the frontal cortex, the

variability of the leukotomy cuts is emphasized. This lack of uniformity is probably a result of the blind operation guided by superficial cranial landmarks only. In the United States open operations such as topectomy, gyrectomy and areactomy are being increasingly employed. The patients in the present series were classified according to whether their cuts were in the anterior, middle or posterior planes and also according to transverse planes into five segments, namely dorsal, ventral, orbital, medial or cingulate and central.

A table shows the causes of death, period of survival, gross symptoms and personality changes. Bilateral lesions confined to the prefrontal region may produce personality changes which persist long after the process of active repair and irritability has subsided. This fact refutes most of the arguments raised by Hebb against the evidence of a frontal lobe syndrome. The changes in personality caused by posterior cuts may be marked, but this can be attributed to cutting of the thalamoprefrontal projection nearer to the thalamus. The importance of this projection in relation to the anatomic mechanism concerned in personality change is emphasized, as well as its importance in confirming recent preliminary findings following thalamotomy.

Following posterior cuts, there are almost always undesirable symptoms of an anatomic or other nature, some of which appear to have a distinct relation to the posterior orbital, angular and premotor regions, all of which regions are concerned with autonomic functions. The detailed and extravagant claims as to localization of the various mental faculties in the frontal lobe could not be confirmed. Any possible degree of localization was overshadowed by the quantitative relationship between the degree of personality change and the extent of the prefrontal cortex removed. The same quantitative principle would seem to apply partially at least to the mechanism of improvement. The anterior angular region is of little importance in determining personality changes.

The findings reported here must all be regarded as tentative and subject to change, as the number of cases treated increases and the methods of clinical observation improve. This report seems justified as a means of emphasizing the potentialities of this type of clinico-anatomic analyses and the importance of making possible greater use of the available human material. A tabular presentation of the correlation of the degree of personality change with the extent of the prefrontal damage in different clinical types of cases is included. 27 references. 5 tables. 10 figures.

3. Cerebrospinal Fluid

See Contents for Related Articles

4. Convulsive Disorders

"Tridione" in the Treatment of Epilepsy. *C. W. M. Whitty, Oxford, England.* Brit. M. J. 4622: 311-15, Aug. 6, 1949.

Tridione treatment of 49 epileptic patients is detailed. Twenty-two had some form of the "petit mal triad" only, 24 had grand mal and petit mal, and 3 had grand mal only. The period of treatment varied

from two to eighteen months, and the dosage from 0.3 to 1.8 Gm. a day. Results as judged by the average weekly number of attacks in the 46 cases who had petit mal showed 31 abolished or markedly reduced, 10 with some improvement, and 5 with no change. None were worse. Grand mal attacks were markedly reduced in 5 of 24 cases, unchanged in 9, and increased in 10. One developed status epilepticus. Six cases with proved focal brain lesions had petit mal, and in 3 of these attacks were markedly reduced in number. Treatment was stopped in 9 cases; in 3 because improvement was maintained without it, in 2 because it was ineffective, in 3 because grand mal was increased, and in one because of conduct disorder and irritability. The effect of the drug is usually shown within ten days and often within forty-eight hours.

Minor toxic effects noted were "glare" in 17 cases, rashes in 10, transient irritability in 4, drowsiness and slight ataxia in 3, prolonged bouts of hiccups in 3, and nausea and vomiting at the start of treatment in 2. Regular blood counts showed a sudden agranulocytosis in 2 cases, and a slow downward drift of neutrophils in 6. These changes were reversed by stopping the drug. It is concluded that tridione is a valuable drug in the treatment of petit mal. When it appears to provoke or increase grand mal, combined therapy with hydantoins seems often more effective than with barbiturates, but careful check must then be kept on the blood. —*Author's abstract.*

Tridione Therapy in Minor Epilepsy. *Glanmor R. Davies and John D. Spillane, Cardiff, Wales.* Brain 72: 140-49, June 1949.

The effects of tridione in 50 epileptic individuals were studied. In 45 a clinical diagnosis of minor epilepsy was first made. In the remaining 5 a clinical diagnosis of psychomotor epilepsy was made, but tridione was used although there was doubt about the likelihood of obtaining a satisfactory response. All the cases were considered to be examples of idiopathic epilepsy. Of the 50 patients, 34 suffered from major epilepsy also. As it was doubtful whether all clinicians would agree on purely clinical grounds concerning the diagnosis of the type of seizure experienced by the patients, the authors' actual description of their experiences during attacks are quoted in order that comparison might be made with other published series as to the indications for instituting tridione therapy.

Although 0.3 Gm. of tridione three times daily was usually the starting dose, the quantity of drug was reduced considerably after satisfactory control in many patients, without recurrence of seizures. Children were not found to be less tolerant of tridione than were adults. In 3 cases where severe toxic reactions were observed, necessitating discontinuation of tridione, control was later attained without mishap by much smaller doses. Tridione was found to be satisfactory in the treatment of minor epilepsy in 38 out of a series of 45 cases. In 12 the attacks were abolished and

in another 15 almost complete control was achieved. In 13 further cases there was a significant reduction in the incidence of attacks. Of the remaining 5 cases, 3 showed slight improvement and 2 failed to respond. Five patients with psychomotor epilepsy were made worse by tridione.

Minor side effects, photophobia, mild sore throat, and papules on the face, chest or arms, were not uncommon. In 2 patients there was an urticarial reaction which subsequently developed into generalized exfoliative dermatitis necessitating discontinuation of tridione. In a third case, treatment was temporarily discontinued following the appearance of facial erythema and edema. Apart from transient eosinophilia in 4 patients, no significant alteration in the leucocyte counts was observed. All the leucocyte counts are recorded in tabular form. It was concluded that tridione is the most effective substance as yet available for the treatment of minor epilepsy.

5. Degenerative Diseases of the Nervous System

Role of Repeated Trauma by Pneumatic Drill in Production of Amyotrophic Lateral Sclerosis. *Bernard J. Alpers and R. A. Farmer, Jefferson Medical College, Philadelphia, Pa.* Arch. Neurol. & Psychiat. 62: 178-82, Aug. 1949.

Two patients with amyotrophic lateral sclerosis whose symptoms were apparently precipitated by use of a pneumatic drill are reported. Review of the literature shows no previously reported cases of similar origin and raises the question of whether repeated trauma might be a precipitating factor. The first patient had worked steadily with a pneumatic drill for nine months, constant tension of the arm and shoulder muscles being necessary to maintain it in position. He developed weakness and twitching of the right hand eight months after starting its use, followed in two months by similar symptoms in the left hand and then progressive weakness of both arms. Tests showed moderate muscle atrophy and weakness of the muscles of both shoulder girdles, arms, forearms and hands. There were neither bulbar signs nor apparent involvement of muscles supplied by the cranial nerves.

The second patient was a man who had worked with a pneumatic drill for over three years and complained of weakness and twitching of the muscles of both limbs and occasional temporary numbness of the fingers. Examination showed vitiligo of the upper arms and axillas, weakness of left side of the hand, forearm and shoulder girdle. Hand grips were weak. There were coarse fasciculations in the pectoral muscles, shoulder girdle, biceps and triceps muscles and occasional fasciculations in the thigh muscles.

The mechanism responsible for disease of the anterior horn cells found in both these patients is not well defined but it seems possible that repeated concussions might be transmitted to the spinal cord and produce changes in susceptible cells of the anterior horn. This possibility was illustrated in a previous case reported by Hassin. Degeneration of the anterior horn

cells has been experimentally produced by repeated concussion over the back and to the right knee in animals. Transitory vasospastic phenomena have occurred in the hands of stone cutters, rapid percussion of the hammers presumably sensitizing the digital vessels. 6 references.

Psychiatric Changes Associated with Friedreich's Ataxia. *D. L. Davies, London, England.* J. Neurol., Neurosurg. & Psychiat. 12: 246-50, Aug. 1949.

From a study of 20 cases of Friedreich's ataxia it was possible to describe several different forms of associated mental disorder. The most interesting of these was the rare form of "Friedreich psychosis" previously described by Saquet and Klein, among others. One of the patients so affected was paranoid, hallucinated and epileptic. His E.E.G. showed right-sided theta rhythm. This is of interest because of the aggressive excitement seen in these cases. The family tree of this patient revealed heredo-familial disease in the father's family, and mental disorder in the mother's family. One patient was subject to epileptic confusion, another developed a depression which responded to treatment and one other had passed through a schizophreniform illness with complete recovery.

Some personality patterns among the patients are also described, although no specificity is claimed for these. Fifteen of the patients had their E.E.G.'s recorded. Three patients, with clinical epilepsy, had grossly abnormal rhythms and 3 others had mildly abnormal rhythms. Among these 6 patients no less than 5 showed the persistence of temporal theta rhythm. It was suggested that the form taken by the psychosis may be determined by disturbances at levels where pathologic demonstration is not possible, but where reflected abnormalities in the electroencephalogram may be expected.—*Author's abstract.*

Cerebral Arteriosclerosis; Its Mental Aspects: An Anatomical-Clinical Study (*L'arterio-sclérose cérébrale ses aspects mentaux: Étude anatomo-clinique*). *L. Marchand.* Ann. méd. psychol. 107: 433-58, May 1949.

This paper presents a review of the various types of lesions that occur in cerebral arteriosclerosis and of the mental symptoms that may be associated with such lesions. Among the cerebral diseases that may simulate cerebral arteriosclerosis are cerebral tumors; in some cases encephalography is necessary for an exact diagnosis. If cerebral arteriosclerosis is associated with high arterial blood pressure, it may be difficult to determine what symptoms are due to the cerebral lesions as such and what symptoms are due to the hypertension. A progressive mental deterioration indicates the presence of cerebral arteriosclerosis. It may also be difficult to distinguish between cerebral arteriosclerosis and syphilitic cerebral arteriopathy; the mental and neurologic symptoms are much the same, but the symptoms in the syphilitic patients develop more rapidly, and the diagnosis can be established by the reactions of the blood serum and cerebrospinal fluid.

Diagnosis also is difficult between cerebral arteriosclerosis and degenerative cerebral lesions (true senile dementia, Alzheimer's disease, and Pick's disease). The mental symptoms in cerebral arteriosclerosis are conditioned by diffuse lesions of the brain secondary to vascular lesions, chiefly involving the ganglionic elements of the cortex. But this anatomico-pathologic substratum also is characteristic of true senile dementia without arterial involvement, and the differential diagnosis of these two conditions is difficult on the basis of the mental symptoms alone. The history and the neurologic symptoms must also be considered. The chief characteristics on which diagnosis can be based include the method of evolution of the syndrome; in degenerative disease it progresses without the occurrence of one or more strokes, or epileptiform crises; the patient does not complain of vertigo, headaches or other prodromal signs characteristic of cerebral arteriosclerosis. The symptoms usually develop more gradually than in cerebral arteriosclerosis. One case is reported, however, in which a diagnosis of Pick's disease was made and was considered to be verified by the encephalographic findings, but which at autopsy showed generalized atheroma of the cerebral arteries; hyaline degeneration of the intracortical blood vessels, and rarefaction and atrophy of the ganglion cells. 60 references.

Familial Periodic Paralysis. Report of a Case. *Ernest Soysa, Colombo, Ceylon.* Brit. M. J. 4625: 470-71, Aug. 27, 1949.

The curiosity and interest aroused by this rare and remarkable palsy are reflected in observations scattered throughout the literature from the time of its original mention in France (1853) up to a recent description of its symptoms (1948) by an English patient who is a member of the first family reported in England to be affected by this malady (1901). While the common precipitating factors are recognized, postulated relationships between this and other pathogenies are inconstant and indefinite. The synthesis of contemporary knowledge on this disease is a result of the search for an adequate pathology, initiated by suspicion of some autotoxemic derangement of muscle metabolism, and leading up to blood chemistry studies which suggest that undue lability of serum potassium and phosphorus in relation to sugar mobilization conditions the motor dysfunction. Inhibitory effects of potassium salts (known since 1901), choline esters, pilocarpine, pancreatic extract, and cod liver oil have received attention.

The case reported is probably the first of its kind recorded in Ceylon and India. A young South Indian laborer exhibited symptoms ranging from fleeting muscular weakness to profound flaccid paralysis of all four limbs lasting up to two and one-half days. Physical exertion was the precipitating cause of these attacks. It was found possible to induce the palsy with glucose but not with adrenaline. A spontaneous attack was effectively aborted by means of potassium citrate, which was successfully

used to establish prophylaxis by regular nocturnal administration. Six others in this patient's family in three generations were afflicted by disabilities of a similar nature. They were all of coolie or manual laborer stock, and one of them had died during a paralytic seizure.—*Author's abstract.*

Observations on Essential (Heredofamilial) Tremor. *Macdonald Critchley.* Brain 72: 113-39, June 1949.

A review of the literature reveals little information on the subject of idiopathic or essential tremor. Many cases undoubtedly do not apply for treatment. Others are incorrectly diagnosed. It is usually monosymptomatic, the only complaint being tremor, to which may be added some directly resulting mechanical disability. It may occur at any time from birth to old age and in either men or women. The early stages are usually progressive but there may be no appreciable change for several years. Symptoms may then remain unchanged for many years but tend to become aggravated in later life and then progress more rapidly. Spontaneous improvement or remission occasionally but rarely occurs.

The tremor usually starts in the hand and forearm of one side although both limbs sometimes are affected. It commonly develops in the opposite limb two or three years after its initial appearance but the tremor remains more marked in the limb originally involved. Rarely it may extend from one hand to the opposite lower limb but it usually spreads to the head and neck or other portion of the cranial musculature. Involvement of the head is important diagnostically, especially if symptoms originally appear in the head, neck or jaw. Such development would be unusual for Parkinsonism but is characteristic of essential tremor. The trunk muscles are rarely involved unless late in the disease. The tremor differs clinically in individual cases. It may vary from 4 to 12 oscillations per minute in the fingers. It may appear as a static tremor while the limb is resting, in which case it may be temporarily inhibited during voluntary motion. Another type is manifested by an intention tremor somewhat simulating cerebellar disease. It varies in intensity and is usually increased during emotional stress. The tremor may be accentuated by voluntary efforts at control. It does not usually occur during sleep and may be augmented by fatigue, heat or cold. The tremor is temporarily increased by tea, coffee or tobacco. Alcohol may check it temporarily but an increase follows. When the head is involved, the tremor may be vertical, horizontal, or occasionally oblique. The patient may appear to be constantly chewing. A marked feature of essential tremor is its familial occurrence. It is usually transmitted as a dominant characteristic but there is probably more than one type of inheritance.

The pathologic factors of essential tremor are unknown but nosologically, essential and hereditary tremors are the same. Senile tremor is a late manifestation of hereditary tremor and not the same as Parkinson's disease, but may be remotely related to either Parkinson's disease or the

presenile cerebellar atrophies and may be a *forme fruste* of one of these. It is occasionally associated with palatal nystagmus. The occurrence of macrobiotic traits in the families of individuals with essential tremor has not been proved. 125 references. 2 tables. 5 figures.

Interruption of the Sympathetic Nerve Supply to the Brain—Effect on Parkinson's Syndrome. *W. James Gardner and Guy H. Williams, Cleveland, Ohio.* Arch. Neurol. & Psychiat. 61: 413-21, April 1949.

Analysis of the results of interruption of the sympathetic nerve supply to the brain in 34 cases of Parkinson's syndrome reveals that, except in 3 or 4 patients, this procedure has been of little value. The results of bilateral cervical sympathectomy were compiled from observations made from two to fifteen months after operation.

In the series of 34 cases of Parkinson's syndrome, the disease was due to encephalitis in 21, to arteriosclerosis in 10 and to paralysis agitans in 3. In selecting the patients, those having rigidity as the predominating symptom or sign were chosen. The average age of the group was 53.8 years and the cases selected represented all stages of the disorder, the signs and symptoms ranging from minimal to those of far-advanced disease. Analysis of the results revealed that the most satisfactory improvement was in alteration of mood. In 20 patients the emotional tone was improved. Some improvement in the lessening of rigidity was noted in 14 patients. This phenomenon may be attributable to increased animation, the result of improvement in mood. The tremor of Parkinson's syndrome is practically unaltered by interruption of the sympathetic nerve supply to the brain.

Two deaths were recorded in this series, both of seriously ill patients. The chief complications of the procedure are: 1) pain in either or both parotid areas with the first bite or two of food taken; 2) nasal stuffiness, and 3) transient paralysis of the vocal cords, due to incidental trauma to the vagus nerve. It is concluded that interruption of the sympathetic nerve supply to the brain in treatment of Parkinson's syndrome is of minor value. Consequently, the procedure should be used only occasionally, and only in selected cases; in such instances the prognosis must be guarded. —*Author's abstract.*

6. Diseases and Injuries of the Spinal Cord and Peripheral Nerves

Observations on "Major" and "Minor" Causalgia. *Francis Echlin, Frederick M. Owens, Jr., and Warner L. Wells, Montreal, Canada.* Arch. Neurol. & Psychiat. 62: 183-203, Aug. 1949.

The terms "major" and "minor" are used to indicate different degrees of the same disease, time of onset, quality and pain distribution being the same in both. The incidence and characteristics of causalgia were studied in 1,500 patients with peripheral nerve injury, chiefly battle casualties. These were divided into 3 groups, the first including 30 cases with major intractable causalgia, the second 310 patients having a history of apparent

major causalgia, and the third 26 patients having a history of only moderate to mild burning pain without initial intense pain. The basic feature of classic causalgia is the severe pain. Objections to this definition are that it excludes genuine but less severe causalgia, such as the mild burning pain experienced by many patients following a major causalgia and those who had pain of the minor type only. It also includes certain severe but variable reflex vasomotor and trophic changes which are largely nonspecific and not an essential part of the syndrome.

These studies showed that the total incidence of causalgia is much higher than usually indicated by statistics, 15 severe cases showing such marked improvement under observation that sympathectomy was no longer indicated although lasting improvement only occurred gradually over a period of months. This indicated that other cases of causalgia had probably not been reported because of improvement before arriving in this country. This assumption was checked in the second group of patients and it was found that 19.6% gave a history of apparent major causalgia, having suffered for weeks or months with severe burning pain indistinguishable from that in patients cured by sympathectomy. Gradual spontaneous improvement had occurred in 37.7% of these within two and one-half months, and within six months in an additional 19.6%. The course of the disease had been identical in both first and second groups until spontaneous improvement occurred in the latter. The third group gave no history of symptoms of major causalgia but did have symptoms of minor causalgia which persisted for months.

The results of this study indicated that most patients with major causalgia gradually show spontaneous improvement. The classic symptoms of causalgia are only apparent while the disease is at its maximum, all grades of intensity being seen as improvement occurs. During this period, they may be described as minor causalgia. Minor causalgia is considered especially important because its incidence in civilian life is probably much higher than generally realized. Early, adequate treatment of an injured nerve is desirable as it may relieve co-existing causalgia, and progressive, irreversible tissue and emotional changes may develop during waiting periods. 29 references.

Cramp in Cases of Prolapsed Intervertebral Disc. *Lionel Wolman, Royal Sheffield Infirmary and Hospital, Sheffield, England.* J. Neurol., Neurosurg. & Psychiat. 12: 251-57, Aug. 1949.

Although cramp is often mentioned as a symptom in cases of prolapsed intervertebral disk, no study has hitherto been made of its exact nature, frequency, and relationships. This study was undertaken in a series of 204 cases followed up one to seven years after operation, attention being focused on the symptom by its frequency of occurrence after operation. Cramp occurred as a preoperative symptom in 8% of the series and after operation in 26%. In the preoperative cases, cramps were more likely to develop in cases having a large lateral prolapse of the disk. In the postoperative cases, the incidence was higher when, in addition to the

removal of the protruded disk material, a posterior nerve root has been cut. The cramp occurring in these postoperative cases gradually diminished with time. The occurrence of cramp, whether before or after operation, was of no prognostic significance as regards the operative result. The changes occurring after posterior nerve root section are discussed in relationship to the possible mechanism of cramp production. It is felt that either central degenerative changes or "artificial synapse" formation at the point of section may be important factors in the mechanism.—*Author's abstract.*

7. Electroencephalography

Encephalitis in Children with Electroencephalographic Changes. *Burton M. Shinners, Ruth F. Krauss, and Betsy Rochester, B.A., Children's Hospital, Buffalo, N. Y.* N. Y. State J. Med. 49: 2140-44, Sept. 15, 1949.

The clinical and encephalographic findings in 5 cases of encephalitic children are discussed. The disease in these patients followed measles, mumps, chickenpox, herpes simplex, and an unidentified non-specific encephalitis. The first patient was an 8-year-old boy who developed measles three weeks before admission. Anorexia, listlessness and stupor developed fifteen days later. An electroencephalogram two days after admission showed depressed electrical activity, especially in the parietal leads. Rapid improvement occurred after five weeks but, two months after acute symptoms had subsided, the patient showed marked emotional instability, severe memory defects, disturbed concentration and a fine, rapid tremor. The electroencephalogram showed considerable 23 to 25 per second activity, especially in the frontal leads. The electroencephalographic changes, behavior and emotional responses persisted during the following year.

The second case was a 5-year-old boy with mumps who developed right frontal headache, vomiting, and a half-hour of visual loss. Recovery from this was followed by recurrent convulsions. An electroencephalogram twenty-four hours after admission showed 2 to 3 per second waves of increased amplitude. The child was clinically well a month later and the encephalogram showed gradual improvement. The third case was a 22-month-old girl with chickenpox who gave a history of irritability for three months and ataxia for one month. Examination on admission showed severe ataxia of the neck, trunk and extremities. Electroencephalogram showed a dominant rate of 5 to 6 waves per second with frequent high voltage bursts of 5 per second activity. Electroencephalographic and personality conditions both improved but a mild ataxia continued. The fourth case was a 2-year-old girl who developed generalized convulsions while suffering from herpes simplex. An electroencephalogram two days after admission showed high voltage, 1 to 2 per second waves with base line sway in all leads. She was semi-conscious for several weeks but improved eventually.

The encephalographic records of all these patients were quite similar, high voltage 1 to 3 second wave activity being present during the acute encephalitis. These potentials usually improved with clinical improvement

but some abnormal waves may persist and cause future convulsions and behavior problems, indicating that the supposedly simple childhood diseases are actually not so simple and may be followed by permanent brain damage. It is suggested that many apparent cases of idiopathic epilepsy actually result from an early, simple childhood disease. 3 references. 11 figures.

Electroencephalographic Changes After Prefrontal Lobotomy. With Particular Reference to the Effect of Lobotomy on Sleep Spindles. *Margaret A. Lennox and John Coolidge, Yale University School of Medicine, New Haven, Conn.* Arch. Neurol. & Psychiat. 62: 150-61, Aug. 1949.

The effects of lobotomy upon the waking electroencephalogram were observed in 48 patients 17 to 76 years of age who had a prefrontal lobotomy by the open technic. A total of 163 electroencephalograms were made preoperatively and one day to eighteen months postoperatively. An intravenous injection of 2.5 to 5% sodium pentothal solution was given during 56 of the recordings. Pentothal recordings usually were obtained only on one side of the head and of the anterior temporal, frontotemporal, prefrontal and frontal leads anterior to the burr holes and of central, posterior temporal and occipital leads posterior to the burr holes.

Generalized slowing, chiefly in the frontal leads, were found during the first few postoperative days. The degree and extent of electroencephalographic slowing occurred gradually in the group and abruptly in individuals. Slowing was most prominent anteriorly to the plane of incision and decreased with the passage of time after operation. Electroencephalograms usually returned to normal after three months, regardless of gross and irreversible brain damage. The most frequent long term electroencephalographic residual of lobotomy was ½ to 1 per second base line sway with superimposed normal frequencies. Changes during the intravenous injection of pentothal sodium depended upon the dose and rapidity of administration. Patients receiving slow injections showed marked increases in fast activity and quickly recovered consciousness when the needle was withdrawn, no sleep spindles appearing. Immediate high amplitude with little or no previous fast activity, swinging, and slow, 2 to 4 per second waves followed more rapid injection of larger amounts. The immediate slow waves were sometimes mixed with transient 12 to 15 per second waves unaffected by lobotomy. Withdrawal of the needle after appearance of the slow waves was usually followed by apparently normal sleep for ten or fifteen minutes. Runs of 12 to 15 per second waves usually developed after sleep of five to ten minutes. Preoperative runs of 12 per second were most prominent in the anterior leads but were practically absent postoperatively. They appear to originate in the nucleus centralis medialis of the thalamus; their postoperative absence is believed to be a result of degeneration of this nucleus. Runs of 14 to 15 per second waves in sleep are believed to originate in the nucleus centralis lateralis

of the thalamus. They are most prominent in the central leads before lobotomy and are less frequent in frontal leads postoperatively, indicating that enough thalamocortical fibers are often left after operation to permit conduction. It must be assumed that they are completely cut if absent in prefrontal leads but present in central leads following lobotomy. Orbital fibers may have been spared but are inaccessible to scalp electrodes and therefore cannot be checked. Persistence of normal alpha activity anterior to the plane of incision in patients whose sleep records show complete severance of corticothalamic fibers makes it doubtful that normal alpha rhythm is only maintained by thalamocorticothalamic reverberating circuits. 12 references. 1 table. 5 figures.

The Electroencephalogram after Head Injury. 1. *Charles Kaufman, Boston, Mass., and A. Earl Walker, Baltimore, Md.* J. Nerv. & Ment. Dis. 109: 383-95, May 1949.

Routine electroencephalograms of 324 patients with severe head injury, of whom 241 had developed convulsive seizures after injury, were analyzed with reference to the wave forms and their localization. Of the epileptic cases, 91.3% had abnormal tracings and the non-epileptic cases had 77.1%. The maximum abnormality was restricted to a relatively small area of one hemisphere in 83.8% and 67.5%, respectively. The most common focal abnormality in both groups was the presence of slow waves, but this was one and a half times as frequent in the epileptic (73.0%) as in the non-epileptic (48.2%) patients. Paroxysmal (spiking) abnormalities were present in only about 1/5 of the cases, and threre was no significant difference between the epileptic and the non-epileptic patients in this regard. It would seem, therefore, that the EEG alone cannot tell or foretell whether a patient with a severe head injury has or will have epilepsy. About 90% of the head injuries were unilateral, and in most cases were left-sided (57.8% of the non-epileptic patients, 52.7% of the epileptic patients). In every case but one the focal electroencephalographic abnormalities were on the side of the injury. Of the cases with bilateral injury, the electroencephalographic abnormality was unilateral in almost 40%.

In a series of 106 post-traumatic epileptic patients, an attempt was made to activate the epileptogenic focus by the administration of Metrazol. Satisfactory focal activation was obtained in 67.9% of the cases, repeated testing being more efficient than just one test. The focal electroencephalographic alterations induced by Metrazol were paroxysmal in 88.9% of the positive cases. Intravenous administration was more effective than intramuscular injections of Metrazol. Clinical seizures occurred in approximately 15% of cases, but not if anticonvulsant medication was given before the test. In 39 cases the cerebral cortex was explored, at which time the locus of the activated focus was confirmed by either Metrazol or electrical activation. Several technics were employed to remove the foci with or without the scar. Routine electroencephalograms were made on 34 operated cases three months after operation. Of these, 14% had paroxysmal abnormalities, whereas before operation 41.2% had had paroxysmal ab-

normalities. Activated electroencephalograms were obtained on 29 operated cases three months after operation. Of these, 51.7% showed no response to Metrazol, whereas before operation 82.7% of these cases had had focal electroencephalographic alterations.

Activated electroencephalography appears to be a useful diagnostic aid in determining the type of seizure, the location of the focus and possibly the prognosis in post-traumatic epilepsy.—*Author's abstract.*

Electroencephalographic Studies in Spinal Cord Disease. *Lawrence I. Kaplan and Esther Stearns, Cornell University Medical School and Bellevue Hospital, New York, N. Y.* Arch. Neurol. & Psychiat. 62: 293-303, Sept. 1949.

A preliminary report is presented of an electroencephalographic study of 15 patients with spinal cord disease but no personal or family history of epilepsy. None of these patients had a normal electroencephalogram. Specific abnormalities were classified descriptively into: 1) disorganized alpha activity; 2) intermittent runs or bursts of moderately slow and slightly fast activity against a background with fluctuating amplitude and pattern; 3) predominant moderately slow activity; 4) well organized alpha patterns containing higher but slightly slower runs or single high waves centrally; 5) exceptionally abnormal records with high voltage fast activity, spikes and bursts of higher or slower activity and sometimes with a spike component. The quality of these records was especially striking.

The abnormalities in these records were usually moderate in degree, quality rather than severity being the most striking feature. The paroxysmal features extended from recurrent brief borderline abnormal frequencies to full and complete paroxysmal discharges. The localization of abnormal features was striking, the central, sagittal central, precentral and sagittal precentral regions being involved the most. The mechanism by which spinal cord lesions might produce such abnormal electrocortical activity is not easily explained but recent evidence indicates that antidromic valleys in the pyramidal tracts may be involved. These abnormal electroencephalograms are important clinically as an aid in differentiating spinal cord disease from parasagittal intracranial lesions as a cause of poorly defined partial paraplegias. 8 references. 4 tables. 7 figures.

Electroencephalography in Differential Diagnosis of Supratentorial Tumors. *John Kershman, A. Conde and William Gibson, McGill University and the Montreal Neurological Institute, Montreal, Canada.* Arch. Neurol. & Psychiat. 62: 255-68, Sept. 1949.

A detailed analysis is presented of the clinical data, roentgenographic, encephalographic and operative findings, and pathologic material in 100 patients operated upon for supratentorial tumors. Brain tumors are electrically inactive and produce electroencephalographic changes through the effect of their location, size and other factors upon the adjacent brain. Wave patterns of the 3 most common neoplasms, multiform glioblastoma,

astrocytoma and meningeal tumors were analyzed and correlated with clinical and other observations in an endeavor to determine whether a preoperative pathologic diagnosis could be made with the electroencephalogram. These types of tumors have different characteristics and affect the brain differently. Glioblastoma multiforme and astrocytoma are differentiated by the marked difference in the amount of focal activity, less than 1 to 3 per second. Practically all glioblastomas but comparatively few astrocytomas showed slow waves in this range, especially at 1 to 2 per second. The slowing in frequency usually indicates the degree of cortical cell damage. Meningeal tumors also show considerably less 1 to 2 per second activity.

Practically the same amount of focal 4 to 7 per second activity was shown by all 3 types of tumor. It is believed that these waves result from any kind of disturbed cortical function as a result of direct pressure, vascular changes, or interference with subcortical neuronal pathways. Deep tumors involving the third ventricle were found to have bilateral synchronous 5 to 6 per second waves. This was believed characteristic of interference with normal corticohypothalamic relations. Thirty per cent of all patients in this series had focal fast activity without history of seizures. The greatest dissociation occurred with meningeal tumors, 22% of which had focal spikes and 42% of which had spikes, sharp waves, or both, without clinical seizures before operation. A useful diagnostic point was the occurrence of closest correlation between focal fast activity and seizures in the astrocytoma group.

Observations in this series emphasize the fact that brain tumor cannot be diagnosed by the electroencephalogram alone. The clinical history, roentgenograms, spinal fluid studies, physical examination and other factors must be correlated. Regardless of type, electroencephalographic localization was correct in 77% of supratentorial tumors, wrong in 3%, and the lesions were poorly located in 20%. Localization on the wrong side was caused by the presence of a quiet area. Percentages of correct localization were the same for all parts of the brain except the third ventricle, where tumor localization was poor. Ninety-two per cent of glioblastomas, 82% of meningeal tumors and 76% of astrocytomas were correctly located. 11 references. 5 tables. 6 figures.

Observations on the Wave and Spike Complex in the Electroencephalogram. *Eric C. O. Jewesbury and M. J. Parsonage, The National Hospital, Queen Square, London.* J. Neurol., Neurosurg. & Psychiat. 12: 239-45, Aug. 1949.

Electroencephalograms showing outbursts of typical wave and spike formations were examined in 100 patients. A preliminary study of the general characters of the records showed normal alpha rhythm in 88 cases. Fifty-eight records were normal except for the wave and spike complexes. The abnormal rhythms seen in the remaining 42 cases included 17 of delta range, 13 of theta range, 9 of general dysrhythmia and 6 of high

voltage fast activity. The wave and spike complexes occurred without overbreathing in 80 cases but only as a consequence of overbreathing in the remaining 20. Overbreathing was done by 82 patients, wave and spike complexes apparently developing in 74 because of this procedure. The effect of opening and closing the eyes during the recording was observed in all cases; wave and spike complexes followed their opening in 8 cases and closing in 15 cases. The complexes followed both opening and closing in 15 cases. The complexes followed both opening and closing in 4 cases but opening the eyes inhibited an existing wave and spike outburst in 3 cases.

No constant relationship was found between the length and number of wave and spike outbursts in the EEG and the occurrence of a clinical attack during the recording. The wave and spike complexes were completely generalized in 94 cases; local as well as generalized outbursts were seen in 3 cases, and the complexes were localized in the frontal regions in 3 cases. Cases having localized outbursts had no especially distinguishing features.

Wave and spike outbursts usually appeared abruptly and synchronously in all leads, the complexes sometimes being preceded and followed by a short burst of irregular waves. In such cases, the complex tended to assume its characteristic form quicker and more clearly in the fronto-parietal regions. Complexes persisted longest in the areas where first seen, the outburst being chiefly frontoparietal in about 10% or less. They tended to occur slightly less often during long outbursts. Definite petit mal occurred in 29 patients; the clinical attacks were accompanied by wave and spike outbursts which were usually of more than average duration. Tendency to clinical attacks seem more closely related to duration than number of outbursts in the record. This investigation did not confirm the theory that pyknolepsy is entirely different from petit mal, the two conditions being indistinguishable by either the EEG or clinical standards.

A few cases of petit mal in this series were treated with tridione but little was learned except the fact that clinical response was not necessarily accompanied by parallel EEG changes. A random twenty minute EEG record is valuable diagnostically in doubtful cases but of little value in estimating the prognosis of petit mal. 16 references. 4 figures.

8. Head Injuries

Treatment of Cerebral Concussion (*Zur Therapie der Commotio Cerebri*). *E. Domanig, Salzburg.* Wien. klin. Wschr. 61: 401-02, July 1, 1949.

This study is based on the observation of more than 1500 cases of cerebral concussion over a period of fifteen years. The condition ranks third, after fracture of the radius and fracture of the ankle, in incidence of cases admitted to the accident ward. In the absence of complications,

the mortality rate for cerebral concussion is not high. However, only 22% of these cases in adults go on to recovery without complications; 23% are partially disabled and only 3% are completely cured.

The basic treatment includes complete uninterrupted rest, adequate sleep (0.3 luminal on retiring), pyramidon for headaches 2 or 3 times daily, dehydration by saline purgatives, restricted fluids and diuretics. Lumbar puncture is not done as a routine procedure from the first day, but only in cases in which severe headache and vertigo persist following two to three weeks of other treatment. In such cases lumbar puncture frequently yields good results. Venesection with withdrawal of 300 to 400 cc. of blood at a time is done as a routine procedure to relieve intracranial pressure and headache. Hypertonic solutions have only a transitory effect and are not recommended, except in certain cases of extremely severe headache. Insulin alone or combined with sugar has not been found effective. Nevertheless, a continuous control of the blood sugar may be of value in indicating the degree and course of the concussion and thus has some prognostic significance. Blood sugar findings are of differential diagnostic value also, since no reduction in the fasting blood sugar, for several days following the accident, excludes cerebral concussion. The blood sugar is also an aid in determining the time when the patient may get up and be discharged. Only those patients should be allowed to be up or to be discharged whose blood sugar has shown no abnormal rise following a tolerance test. In most cases, this will be from eight to ten days. In the presence of complicating abscess or infection there will be a marked rise in the fasting blood sugar, frequently of more than 200 mg.%, with or without an exacerbation of subjective symptoms.

Excellent results of administration of vitamin B complex, Becocym (Roche), are reported in 15 cases, 8 of which had been disabled for four years and had failed to respond to any other treatment. Of these, 4 patients were completely cured and 3 showed marked improvement, while one patient who suffered from florid tuberculosis also showed no improvement. One ampule was administered twice daily for twelve to fourteen days, then 2 tablets three times one day for two to four weeks. Very good results were obtained in the 7 early cases in which symptoms had persisted for three to four weeks after the accident in spite of proper treatment, and in which the blood sugar still showed marked fluctuations.

The Long-term Results of Injuries of the Head. A Medical, Economical and Sociological Survey. *G. F. Rowbotham, Newcastle-on-Tyne.* J. Ment. Sc. 95: 336-54, April 1949.

In 1939 an inquiry regarding late results of closed-type head injuries due to accidents in civil life was started to ascertain the average time elapsing before return to work, the financial cost to the country due to lost man-power and hospitalization, the incidence of post-traumatic epilepsy,

as well as the nature of the residual illness and how it prevented normal life and affected the happiness of the family. It was also intended to ascertain whether persons suffering from after-effects of head injury were more susceptible to the effects of alcohol so that smaller quantities would render them unsafe drivers.

Of 308 patients examined, 29 never returned to work. Of the latter, 4 had only slight head injuries but suffered from severe anxiety neuroses. In the families of these patients, children frequently had to neglect school. Most of the patients returned to work long before their residual symptoms of insomnia and headache had subsided. On the whole, the loss to family and state was very great. There were 11 cases of epilepsy, or 2½%. Other peculiarities attributed to the effects of the accident were negativism, emotional lability, depression, loss of interest, bad temper, irritability, peevishness and intellectual deterioration. Employers state that these patients, when they return to work, need constant supervision, and that they seem to have lost all sense of initiative and responsibility. Compensation will clear up the patient's exaggerated notion of his condition, but not his true medical condition. At least 80% of patients receiving compensation put the money into safe investments, which according to the author is the least helpful mode of procedure. He advises his patients to spend the money freely in seeking good health, holidays, improving their homes and other amenities of living.

Although deteriorations in personality and emotional instability are common sequelae of head injuries, frank dementia is rare. Residual disease may result from neuronal destruction or from alterations in the neuronal pattern. In many cases, therefore, there may be a physical basis for the changes noted. In comparing long-term results of different surveys, it is important to consider the death rate of the series. In the present series the death rate was 16 to 20%.

In order to minimize the after-effects of these head injuries, adequate treatment of the acute stage is imperative. Medical rehabilitation consists in a system of graduated physical and mental exercises under the supervision of a physician. The link between the medical phase and industrial replacement is important. The government can inform medical authorities of the types of work that are available for the injured, and it should be the duty of physicians to advise the Ministry of Labour of the detailed medical condition of the patient seeking work. Methods for improving the medical and industrial liaison are discussed. Prognosis in closed-type head injuries must be governed by the nature of the injury, the type of man and the nature of the job to which he returns after convalescence. A graphic presentation of the influence of each of these factors on the end result is included. The true nature of the residual disturbance appears to be a lasting disturbance of the emotions. Eleven cases are reported in detail.

9. Infectious and Toxic Diseases of the Nervous System

Prognosis and Pathogenic Aspects on Some Early Symptoms of Poliomyelitis. *I. Lundholm, Infectious Diseases Hospital, Ostersund, Sweden.* Acta. med. Scandinav. 135: 120-32, Fasc. II, 1949.

The method of infection of poliomyelitis is reviewed and early symptoms, based upon observations of 81 cases with meningeal symptoms only and 380 cases with paralysis, are discussed. The poliomyelitis virus may be found anywhere from the nose, mouth and pharynx to the rectum. The possibility of spreading infection from the pharynx during the early stage of the disease should not be disregarded but is much less than from the nose or intestinal tract. Early symptoms are divided into 3 groups, the first including pharyngitis, tonsillitis or diarrhea, the second including vomiting, headache and backache, and the third having Kernig's sign and stiffness of the neck. Pharyngeal symptoms are common and diarrhea is rare. The second group may indicate any general infection but headache is much more common in the meningeal form of poliomyelitis than in the catarrhal. Headache and the third group of symptoms are all indicative of neuro-infection and irritation of the central nervous system.

Prognostically, pharyngitis is perhaps more common in early paresis than in abortive cases but, generally speaking, there is such slight difference that a severe pharyngitis cannot be assumed to indicate paresis. Stiffness of the neck, however, is of some prognostic value, its presence being more characteristic of early paresis. Early abortive cases may also be diagnosed by tests for hypersensitivity such as Amoss' sign, inability to sit upright without arm support, or Spine's symptom, inability to touch the mouth to the knees. The spinal fluid cell count is of definite prognostic value; 72% of abortive cases but only 52% of paresis cases have low cell counts. Severity of the disease increases with the age of the patient in civilized countries, the mortality being three times as large in patients over 15 years of age. 20 references.

The Use of Darvisul in Acute Poliomyelitis.* *Robert Grayson, M.D., Miami Beach, Fla.* North Carolina M. J. 10: 492-94, Sept. 1949.

During the 1948 epidemic of poliomyelitis in North Carolina, Darvisul, N-(2 Thiazolyl)-phenol sulfonamide, was used on a group of 45 patients with acute poliomyelitis who were hospitalized at Duke Hospital, Durham, North Carolina. A group of 57 patients, most of whom had been hospitalized before Darvisul became available, were used as a control for the series.

Darvisul, named phenosulfazole, was used according to the suggestions of the manufacturer, being given intravenously for the first twenty-four hours in a dose of 300 - 400 mg. Hg. per twenty-four hours, and then orally in similar dosage for a total of five days. Urinalyses and blood counts were performed every other day on all patients who were receiving Darvisul, and no abnormalities attributable to the drug were noted.

Two factors which could be measured with reasonable objectivity were used as criteria for effectiveness of therapy, namely, the duration of fever and the degree and extent of muscle involvement. The average duration of fever in the group which received Darvisul (45 cases) was 4.93 days; in the control groups (57 cases) it was 5.18 days. The difference, 0.25 days, is not statistically significant (t=0.676, with P between 0.5 and 0.4). The effect of Darvisul was analyzed with respect to both the extent and the degree of muscular involvement. In each of the 102 patients, the function of 52 muscles (or muscle groups) on each side was tested, a total of 10,608. To show the extent of involvement, all those muscles having no, trace, poor or fair function were grouped together and compared with those having good to normal function (data cited). There is striking agreement between the actual numbers and those that would be expected if the disease were not affected by Darvisul. Obviously the drug had no effect in limiting the extent of muscular involvement, unless the epidemic had increased notably in severity after the use of Darvisul was begun. The conclusion is confirmed by the chi square test.

In spite of the absence of effect on the extent of muscular involvement, it seemed possible that Darvisul might favorably influence the degree of involvement in the affected muscles. To test this possibility, muscles with no or trace function were contrasted with those having poor to fair function. Again it was obvious that the Darvisul therapy had no significant effect.

From the data it was evident that Darvisul did not significantly alter the course of poliomyelitis, confirming a general clinical impression. Given early, before the onset of any clinical paralysis or weakness, it did not prevent the occurrence of such involvement. Given after the onset of paralysis, Darvisul did not prevent further involvement.—*Author's abstract.*

* Darvisul was supplied by the Lederle Laboratories Division, American Cyanamid Corporation, Pearl River, New York.

Encephalitis With Choreic and Cerebellar Symptoms in a Girl Convalescing From Varicella (*Encéphalite a formé choreique et cérébelleuse chez une fillette convalescente de varicelle*). *N. Neumann and H. Blanc.* Rev. méd. Nancy 74: 235-40, June 1949.

In the case reported, the patient was a girl 3 years old who, during her recovery from an attack of varicella of moderate severity, suddenly developed constant abnormal movements of the extremities, particularly on the right side. Examination of the patient showed two neurologic syndromes: choreo-athetoid movements of the extremities, especially the upper extremities, and asynergic movements of the four extremities, especially on the right side. There was a slight recurrence of fever when these symptoms occurred. The symptoms subsided within seventeen days; at the time of the patient's discharge, there was a slight abnormality of gait, otherwise no sequelae were observed. During the illness, examination of the spinal fluid had shown it to be normal; there was a slightly positive reaction for syphilis, but no signs of syphilis. Such a false-positive reaction has been observed by others after vaccination for smallpox, and

may be considered a temporary reaction to an ectodermoneurotropic virus. A review of the literature shows this case to be typical of varicellar encephalitis, in which the symptoms are not as severe as in other types of virus encephalitis, and the prognosis is generally favorable. However, in a patient as young as this, there is the possibility of some mental sequelae developing later, and the patient is being kept under observation.

Syndrome of Pseudosclerosis of Westphal-Strumpell of Acute Onset (*Syndrome de pseudo-sclérose de Westphal-Strümpell à debut aigu*). *P. Duran, M. Ferrand and M. Morel.* Lyon méd. 181: 305-10, May 15, 1949.

In the case reported, the patient was 22 years of age when he had an attack of acute encephalitis, at the onset of which incoordinated movements of the arms developed, followed by severe chronic contractions of the muscles of the upper extremities and involving the lower extremities to a lesser degree. These contractions progressed to a generalized tonic spasm. These attacks recurred, but were controlled by the intravenous administration of sodium evipal. Three months after the acute attack, abnormal movements of the arms, especially of the left arm, were still present and the incoordination and tremor were intensified when the patient sought to make any voluntary movements. Examination of the eyes at that time did not show the Kayser-Fleischer corneal ring. Tests of liver function showed no abnormality, except that the administration of 50 Gm. of glucose caused a hyperglycemia that reached its peak at the end of one hour, and the urinary excretion of 29.6% of the glucose administered within the first two hours. This type of glycosuria after the administration of glucose is not typical of hepaticolenticular degeneration, but rather of acute hepatitis, and may indicate that in this case hepatitis is developing.

A survey of the family and personal history of the patient showed no abnormalities or disease that could cause the development of pseudosclerosis, except the recent attack of acute encephalitis. A review of the literature shows that in a few other reported cases an acute encephalitis had preceded or coincided with the development of symptoms of pseudosclerosis. In the case reported, the authors believe that the complete Westphal-Strümpel syndrome may develop later.

Facial Palsy and Poliomyelitis. *Thomas Stapleton, Sheffield, England.* Lancet 2: 510-11, Sept. 17, 1949.

The simultaneous occurrence of a group of cases of isolated facial palsy and of poliomyelitis is recorded. During 1948, 22 cases of poliomyelitis were reported in Sheffield; in the same year, 8 cases of facial nerve palsy of lower motor neurone type of unknown etiologic factors unaccompanied by other paresis attended the out-patient department of the Children's Hospital, Sheffield. The peak of occurrence of the two conditions appeared to coincide and, on statistical analysis, the grouping of the cases of facial palsy seemed unlikely to be fortuitous. Five case histories

illustrate an apparent gradation between frank poliomyelitis and simple facial palsy. The possibility that the cases of isolated facial palsy were caused by the virus of poliomyelitis is discussed.—*Author's abstract.*

10. Intracranial Tumors

See Contents for Related Articles

11. Neuropathology

Physiopathologic Mechanism of Central Lesions Due to Carbon Monoxide Intoxication (*Du mécanisme physiopathologique des lésions centrales de l'intoxication oxycarbonée*). *T. de Lehoczky, Budapest.* Acta neurol. et psych. Belgica 49: 488-95, July 1949.

After Cramer had reported in 1891 that some intoxications due to carbon monoxide, in addition to producing the classical bipallidal softening, produced considerable damage of the white matter of the brain, 12 other cases were reported. To this total of 13 cases the author adds 4 more cases of intoxication by carbon monoxide in which alterations of the white matter were of first importance. The clinical picture in these 4 cases showed a characteristic extrapyramidal rigidity, a Parkinsonian tremor, mental confusion and an organic psychosis. The histopathologic examinations showed a bilateral softening of the pallidum in the central grey ganglions. Different phases of focal fatty disintegration were seen. The oval center in the white matter was sprinkled with necrobiotic foci which were confluent at times. In the third and fourth cases, the lesion was more serious in the white matter of the occipital area where it resembled the concentric softening of Balo. There was no fatty disintegration but a characteristic "spongy state" with glial hypertrophy and hyperplasia. The cortex of the first case showed slight lesions and in the other 3 cases nonspecific, diffuse and important alterations of the nerve cells were noticed. The author indicates the possibility of the converging effect of the following factors: anoxemia, the direct effect of CO, and the functional vasomotor paralysis. On the basis of these histopathologic observations the author adds two new factors to the already known ones: 1) the liquid factor which is the most important because of its absorption of CO and the local particularity of its stream; 2) the factor of CO fixation. The fact that the same agent causes different lesions in the same areas of the brain is explained by the author by the hypothesis of a varying capacity to fix the CO in these areas. Finally the author compares the clinico-histopathologic data to those of the degenerative sub-groups of the diffuse sclerosis and to the concentric softening described in the different illnesses: encephalitis (Balo), multiple sclerosis (Marburg, Steiner, Henneberg), intoxication due to cyanide (Ferraro). 31 references.

Experimental Observations on the So-Called Senile Changes of Intracellular Neurofibrils. *Karl Stern, M.D. and K. A. C. Elliott, Montreal, Canada.* Am. J. Psychiat. 106: 190-94, Sept. 1949.

One of the peculiar features of the senile brain is the so-called Alzheimer change of the intracellular neurofibrils. This change consists

of: coarsening, clumping together of these fibrils which then, in the most characteristic picture, are coiled up in strands. It appears that this change is confined to the senile human brain, and does not occur during the process of aging of any other species. There are numerous observations in the literature which would suggest that this neurofibrillary change is not due to aging as such but to changes of the water content of the tissue associated with old age. In the present study, an attempt was made to reproduce these so-called "senile" changes by dehydrating animals. The experiments were done on rabbits anesthetized with nembutal. Shrinkage or swelling of the brain was produced by infusing either 25% glucose solution (hypertonic fluid) or 0.1% glucose solution (hypotonic fluid) into the femoral vein at a rate of about 2 ml. per minute for one to three hours. In silver stains for neurofibrils (Bielschowsky) the following changes were characteristic: the swollen brains showed nerve cells which were slightly bloated, with an unstained halo around the nucleus, and argentophile material accumulated at the margin of the cell. In the dehydrated brains, nerve cells were seen with coarsened, occasionally clumped-together neurofibrils, but nowhere any actual coiling-up (the latter phenomenon is the most characteristic one in the senile human brain). These changes were not ubiquitous, but diffusely scattered in the nerve cells. The changes seen in dehydrated cells resembled morphologically the early and mild stages of the senile change of intracellular neurofibrils.—*Author's abstract.*

Post-Traumatic Vasothrombosis. A Clinicopathologic Syndrome. *I. Mark Scheinker, Cincinnati General Hospital, Cincinnati, O.* Arch. Neurol. & Psychiat. 61: 248-61, March 1949.

In 13 cases of severe injury to the brain necropsy revealed circulatory disturbances characterized by thrombotic occlusion of smaller veins and capillaries, designated as vasothrombosis. The view is expressed that the formation of thrombi is the result, in part at least, of vasoparalytic phenomena caused by transmission of force from the site of impact to the deeper structures of the brain. It is argued, on histologic grounds, that reduction of blood flow in the occluded blood vessels and the interference with venous outflow are an adequate explanation of the pathologic alteration of the nerve parenchyma.—*Author's abstract.*

The Pathologic Changes in Huntington's Chorea and Their Relation to the Chorea Mechanism. *Otto Warburg, Department of Neurology, Columbia University College of Physicians and Surgeons.* Mschr. f. Psychiat., Basel. 117: 307-15, April-June, 1949.

A pathologic study of 10 cases of Huntington's chorea revealed severe lesions of the dentate-rubral system. There are also other facts supporting Bonhoeffer's theory which explains the chorea as a centripetal regulatory disturbance. Since many other afferent systems are involved, and especially the subthalamic body, it seems logical to conclude that although the dentate-rubral system may be the main source of the dyskinetic process in Huntington's chorea, other factors intervene to produce this significant clinical

picture. The fact that there is a centripetal regulatory disturbance and not one of the centrifugal motor disturbance in this disease is the most probable explanation of the clinical symptomatology. 28 references.

12. Neuroradiology

See Contents for Related Articles

13. Syphilis of the Nervous System

Penicillin Therapy in General Paresis. *George D. Weickhardt, St. Elizabeths Hospital, Washington, D. C.* Am. J. Psychiat. 105: 63-67, July 1948.

A report is presented of 100 patients with general paresis who have been observed from six months to two years following treatment with penicillin. Each patient received 6,000,000 units of sodium penicillin by intramuscular injection within a period of thirty days. The drug was administered in aqueous solution every three hours in doses of 25,000 units. Sixty patients received no other specific treatment, while the remaining 40 patients received concurrently a full course of therapeutic quartan malaria (7 to 18 chills). Clinical and serologic examinations were carried out at frequent intervals following the completion of the treatment. The two groups were to a great extent similar and comparable, although nothing is said concerning the pre-paretic personality adjustment of the two. One important difference between the two groups was in the length of the follow-up observation period, those treated with penicillin alone having been observed for a longer period.

No significant difference was found in the results obtained with penicillin alone and with concurrent malaria-penicillin. In the serologic evaluation, the cell count showed rapid and dramatic decrease as early as one month following completion of treatment; the protein count fell more slowly; in the Komer reaction a maximum of serologic improvement was reached at twenty-four months; and in the colloidal gold reaction there was a slow but steady decrease in intensity which was not significantly different in the two groups.

It is concluded that penicillin alone in total dose of 6,000,000 units within thirty days is of definite therapeutic value in paretic neurosyphilis. Nevertheless, until further experience is gained, penicillin should be combined with malarial therapy in the treatment. If for any reason fever therapy is contraindicated, penicillin alone is the best available method of treatment. 10 references. 2 tables. 3 fgures.

14. Treatment

Revascularization of the Brain Through Establishment of a Cervical Arteriovenous Fistula. Effects in Children with Mental Retardation and Convulsive Disorders. *Claude S. Beck, Charles F. McKhann and W. Dean Belknap, Western Reserve University School of Medicine, Cleveland, Ohio.* J. Pediat. 35: 317-29, Sept. 1949.

The gliosis characteristic of convulsive disorders, sensorimotor impairment and mental retardation interferes with the cerebral blood supply. A report is presented of the treatment of such cases by making an anastomosis

between the common carotid artery and internal jugular vein to redistribute and increase the flow of blood to the brain. All parts of the brain are connected by an intercommunicating vascular network without end arteries so that arterial pressure in the venous system would produce a redistributed blood flow. Cerebral venous return is asymmetrical, with a definite pathway from each sinus to one of the internal jugular veins, blood to the right jugular coming chiefly from the cortex and that to the left chiefly from the deeper portions and cerebellum. Injection of a tracer substance into both the common carotid arteries and jugular veins showed that under arterial pressure, the superior sagittal sinus and all its visible branches are filled from the right jugular vein. The operation for arteriovenous anastomosis is therefore made on the right side. In general, patients selected for this operation were those having brain injury ordinarily causing gliosis, including those with mental retardation on an anoxic or arteriosclerotic basis and others having convulsive disorders on an organic basis with or without mental retardation.

When performing the operation, a transverse incision is made on the side of the neck about 2 cm. above the right clavicle. The sternocleidomastoid muscle is cut and the common carotid artery and internal jugular vein are dissected free for about 4 cm. All branches of the jugular vein below the base of the skull are ligated. A temporary ligature is applied to the vein above and to the common carotid artery above and below the site for anastomosis, leaving adequate space for the fistula. The vein is ligated with 3 ligatures below and a 4 to 5 mm. opening is made in both artery and vein, care being taken not to make too large or too small an opening as this might produce heart failure or thrombosis. A new suture is started at each end and an over-and-over stitch is used. The 3 temporary sutures are now removed and any leak is closed. The sternomastoid muscle, platysma and skin are closed.

This operation was used in 10 children 11 months to 14 years of age having mental retardation with or without convulsive disorder and a 38-year-old adult with left hemiplegia and mental deterioration. Case reports of 4 patients are presented. Progress in the other 7 could not be evaluated as their operations were too recent. Obviously beneficial results have been produced by the operation although a maximum follow-up of only five months has been possible. Complete restoration of normal function cannot be anticipated but some functional return for the remaining viable neuronal tissue may be expected. The operation has been proven safe and, as yet, without complications. The fistula may be closed if untoward results appear. 21 references. 1 table. 5 figures.

Artane in the Treatment of Parkinson's Disease. A Report of Its Effectiveness Alone and in Combination with Benadryl and Parpanit.* *Robert S. Schwab, and William R. Tillmann, Boston, Mass.* New England J. Med. 241: 483-485, Sept. 29, 1949.

The authors present a clinical evaluation of Artane, a recently synthesized drug used in cases of Parkinson's disease. The drug is safe to use, has no serious side effects, is promptly eliminated and has no disturbing

effect on the blood or the renal or cardiac system. Overdosage produces side effects similar to those of Parpanit, such as giddiness, dryness of the mouth, blurring of vision and headache. The initial dose is half a tablet, or 1 mg., four times a day. This is gradually increased until the patient is taking 3 mg. five times a day as a high level. The average is 2 mg. five times a day.

Artane has been found less toxic that Parpanit in older patients, but it is less effective in reducing tremor. In some patients the tremor is worse in spite of the reduction in rigidity. Of 44 patients who had received Artane for over three months, only 7 (16%) were relieved sufficiently, as compared with their status on atropine, to remain on Artane alone. Nine required the addition of Parpanit, and 7 were best regulated on a combination of Artane and Benadryl. Six others fared best on atropine drugs and Artane. Twenty-nine, or 67%, were 20 to 30% better after such regulation on Artane than on the medication previously given. Seven were no better, and 8 could not tolerate Artane alone or in combination. Artane was therefore a failure in 33%.

Since the relief of symptoms is only partial in Parkinson's disease, it is difficult to compare medications. The course of the disease may be altered by factors other than the medication itself. Greater accuracy in evaluation may be obtained by objective as well as subjective reports, multiple points of evaluation, large numbers of cases, placebo substitutions, a long period of observation, observation by different physicians, different groups of patients, adequate time on single drugs, a shift in drugs and multiple drugs, and specific psychotherapy. In the present report 10 points were used in evaluation, 3 different observers and 3 groups of patients were involved.

In spite of promising results of the newer belladonna preparations, such as Bulgarian belladonna root, Rabellon, Vinobel, Neoscopolamine and various mixtures, the treatment of Parkinson's disease has not been entirely satisfactory. Unpleasant and disturbing side effects occurred with all compounds. The antihistaminic Benadryl, and the new synthetic drug, Parpanit, have not produced the degree of drying of secretion or interference with accomodation encountered with atropine drugs. Benadryl is less effective alone than either Parpanit or Artane. Benadryl in combination with Artane or Parpanit or even atropine drugs was effective in 12 of 24 cases in which it was tried. The effect of other antihistaminic drugs, such as Thephorin, aminophylline and Benadryl mixture (Dramamine) is in the process of evaluation. 4 references. 2 figures.—*Author's abstract.*

* Supplies of Artane used in this investigation were furnished by the Lederle Company, Pearl River, N. Y.

The Practical Value of Peripheral Nerve Repair. *H. J. Sedden.* Proc. Roy. Soc. Med. 42: 427-36, June 1949.

Neurologic observations of the results of nerve suture showed that useful motor recovery was obtained in 88% of cases of high median nerve lesions and in about 55% of intermediate and 20% of low median nerve lesions. Useful sensory recovery occurred in 79.4% of median nerve lesions.

Motor recovery occurred in 79.7% of ulnar nerve injury, about 95% of medial and 75% of lateral popliteal nerve injuries. Sensory recovery occurred in 82% of medial popliteal nerve injuries. The prognosis was worse with high than with low lesions. A severed nerve should be repaired as promptly as practicable as delay is admittedly harmful. Wound healing and replacement of a large cutaneous scar by healthy skin should therefore be expedited. Muscle atrophy should be controlled by adequate daily brisk contraction. Poor results more frequently follow repair of proximal lesions, one reason being that the axons cannot reach the periphery for months, even after early repair. Experience has shown that there is a biologic limit, called the critical resection length, to the closure of large nerve gaps by end-to-end sutures because the postoperative stretching necessary to return the limb to normal position may produce severe and extensive intraneural fibrosis similar to that following an acute traction injury. Roughly speaking, there is serious risk of failure in end-to-end nerve suture requiring more than 90 to 100 degrees of flexion of the elbow or knee. The wrist should not be flexed to that extent. Such cases may be successfully treated by nerve grafting.

Nerve sutures unavoidably fail in case of associated injuries of blood vessels, muscles, tendons and joints, or in lesions too extensive for repair. Avoidable causes of failure are poor condition of the limb, delay, timid resection of lesions in continuity, unreliability of primary suture, errors in technic of secondary suture and the various postoperative complications such as sepsis and separation of nerve stumps.

Recent results of surgery for nerve repair have shown that satisfactory results are obtained with secondary operations, repair being really undesirable. Patients with nerve injuries may therefore be treated with such reasonable delay as will permit adequate technical skill and operating facilities to become available. 20 references. 7 tables. 8 figures.

Neostigmine Methylsulfate Therapy in Hemiplegia. *Harry A. Teitelbaum, M.D. and Harold L. Vyner, Baltimore, Md.* Arch. Neurol. & Psychiat. 62: 98, July 1949.

A number of recent reports indicated that neostigmine methylsulfate administered intramuscularly had beneficial effects on various neuromuscular disorders. Several studies failed to confirm the above. In ten cases of hemiplegia, controlled by means of sterile water injections prior to the administration of neostigmine methylsulfate, the latter drug in doses of 1 or 1.5 mg. injected intramuscularly three times a day, failed to produce any improvement.—*Author's abstract.*

15. Book Reviews

The Quarterly Review of Psychiatry and Neurology is glad to welcome a newcomer to the field of psychiatric publications—the Quarterly Journal of Child Behavior.

The Managing Editor is Dr. Nolan D.C. Lewis, whose qualifications as a psychiatrist and as an editor are outstanding. The Associate Managing Editor is Dr. William S. Langford; the Associate Editors are Drs. Lauretta Bender, Margaret S. Mahler, and Bernard L. Pacella. The Collaborating Editors are Drs. Frank J. Curran, Leo Kanner, Walter O. Klingman, Hale F. Shirley, and Emmy Sylvester. The publishers are the Coolidge Foundation of Richmond and New York.

The Journal will be a most desirable addition to the periodicals dealing with the important field of child psychiatry.

Better Care in Mental Hospitals. *Daniel Blain, M.D.* Washington, D. C. 1949, American Pyschiatric Association. 208 pp. $3.00.

This volume presents in condensed form the proceedings of the five-day Mental Hospital Institute held by the American Psychiatric Association in Philadelphia in April 1949. The Institute was attended by 190 representatives from 36 States, six Canadian Provinces, and from Puerto Rico and New Zealand, all concerned closely in the administration of mental hospitals.

Such topics as Administration of the Mental Hospital, Personnel, Clinical Relations in the Hospital, and the Community and the Hospital were discussed by the faculty and by the participants as well. There was thus a free interchange of views and information. A very considerable amount of up to the minute data regarding mental hospital practices and statistics is contained in the appendices. Here is a book which should be read by everyone interested in mental hospital administration, and which should be found in every medical library.

WINFRED OVERHOLSER, M.D.
SAINT ELIZABETHS HOSPITAL

Current Therapy 1949. *Edited by Howard F. Conn, M.D.* Phila., W. B. Saunders Company. 672 pp., $10.00.

Current Therapy 1949 is a new volume prepared as the first of a series of similar annual volumes, the purpose of which will be to provide brief but complete outlines of current, accepted and practical treatment for almost all the medical or surgical diseases that a physician may be expected to encounter. The selection of contributors was left to the discretion of the following board of eminent consultants:

Dr. M. Edward Davis, University of Chicago.
Dr. Vincent J. Derbes, Tulane University.
Dr. Garfield G. Duncan, Jefferson Medical College.
Dr. Hugh J. Jewett, The Johns Hopkins University.
Dr. Wm. J. Kerr, University of California.
Dr. Perrin H. Long, The Johns Hopkins University.
Dr. H. Houston Merritt, Columbia University.
Dr. Paul A. O'Leary, Mayo Foundation.
Dr. Walter L. Palmer, University of Chicago.

Dr. Hobard A. Reimann, Jefferson Medical College.
Dr. Cyrus C. Sturgis, University of Michigan.
Dr. Robert H. Williams, University of Washington.

Each of 236 individual contributors was selected by the Board of Consultants to prepare one or more outlines of treatment for that disease or those diseases which the Board of Consultants felt that he was treating currently in the most acceptable fashion. In many cases individual contributors have outlined the treatment of several different disease entities and in many cases where the treatment of a given disease is empiric, controversial, or otherwise subject to wide variation, two or more contributors have been asked to describe treatments for a single disease entity.

The volume is attractively bound, exceptionally well indexed, legibly printed in two columns on good paper. The volume is arranged into fourteen sections, as follows:

1. The Infectious Diseases.
2. Diseases of the Digestive System.
3. Diseases of Metabolism and Nutrition.
4. Diseases of the Endocrine System.
5. Diseases of the Urogenital Tract.
6. Venereal Diseases.
7. Diseases of Allergy.
8. Diseases of the Skin.
9. Diseases of the Respiratory System.
10. Diseases of the Cardiovascular System.
11. Diseases of the Blood and Spleen.
12. Diseases of the Nervous System.
13. Obstetric and Gynecologic Conditions.
14. Diseases Due to Physical and Chemical Agents.

Each section of the work is prefaced by a Content Page listing specific diseases described in that section and indicating the page on which the description occurs.

In general, the individual outlines of treatment are excellently written, both from a literary and professional standpoint. The individual outlines are brief but sufficiently detailed in almost every case to afford a complete outline of the specific and symptomatic and supportive treatment of each disease discussed. The volume adapts itself to rapid reference work. In no case does the volume enter into the discussion of diagnosis or differential diagnosis of the diseases discussed. The work is subject to the same criticism that is inherent in any modern literature in the medical field, namely, several of the diseases described in the volume have, since the time of publication been found amenable to new antibiotic therapy. Rheumatic diseases are not accorded an extensive discussion in keeping with their prominence in the ordinary physician's practice. The section on gynecologic and obstetric diseases might be improved by an outline of technics and therapy of chronic cystic mastitis and functional dysmenorrhea, the syndromes of which are not completely disabling but make life miserable for the individual sufferer and/or her associates.

In spite of the minor criticisms above I feel that Current Therapy 1949 constitutes a valuable addition to the library of any physician in practice.

OTIS R. FARLEY, M.D.
SAINT ELIZABETHS HOSPITAL

Psychiatric Shock Therapy—Current Views and Practices. *Granville L. Jones, M.D.* New York., National Committee for Mental Hygiene, 1949. pp. 29.

This booklet, sponsored by the Manfred Sakel Foundation, reports the analysis of answers to questionnaires sent to 487 mental hospitals. Up to February 1948, 359 replies had been received, or 73%. A summary of an analysis is difficult to present, and most of our readers will wish to study the detailed report. Briefly, however, the use of shock therapy was reported by 302 of the hospitals replying, or about 84%; of these, 34 reported more than 2500 cases each, and 95 more over 1000 each, treated. The consensus of opinion appears to be that electro-shock is superior in manic depressive psychosis and involutional melancholia; that if shock is to be used at all in treating pyschoneuroses, electricity or sub-shock insulin is preferable. "A majority of hospitals feel that insulin shock is better for schizophrenia, but many prefer to try electro-shock first."

Doctor Jones has performed a useful service in presenting this analysis.

WINFRED OVERHOLSER, M.D.
SAINT ELIZABETHS HOSPITAL

The Sexual Criminal. *J. Paul de River, M.D., F.A.C.S.* 1949, Springfield, Ill., C.C. Thomas, 281 pp. $5.50.

This book, subtitled "a psychoanalytical study", and copiously illustrated, is most disappointing as a "scientific" production. The dust wrapper, which bears the silhouette of a well-developed female torso, informs us that "these vicious, dangerous, lustful, men and women are dealt with realistically", and that "for the first time this 'hush-hush' subject is really opened up truthfully". Another choice morsel from the dust wrapper refers to the subjects as "allowed-to-live human lice!" So much to indicate the "scientific" approach of a volume published by a press usually most meticulous as to content and advertising.

The author is reported to be a diplomate of the American Board of Ophthalmology, and according to the latest American Medical Directory limits his practice to eye, ear, nose and throat. One gathers that he has seen a few books on psychiatry, but the leading authors on the particular phase of psychiatry he treats are not even listed in the index.

The case histories (mostly of homicides) are most superficial, and slip at times into language which makes it clear that the reader whom the author has in mind is the curious layman, not the "educators, lawyers, physicians", etc. mentioned on the dust wrapper. They are full of antiquated misinformation, and can only mislead anyone seriously interested in acquiring authoritative guidance on a subject too long beclouded by taboos. Samples:

"*Psychic examination.* He has no illusions, delusions or hallucinations. His insight and judgment are poor. He performs the test for the opposites and the backward and forward test fairly well. He is a sexual psychopath, but legally sane" (p. 158). "The conscious mind—has no part in thought. Thinking is the function of the subconscious" (p. 259). "The unconscious mind is the nucleus of life. It is the reservoir or storehouse of the mind, with the will of God, the instincts, and memory as its functions" (p. 259). "Free will enjoys its freedom, lying untouched by any supreme power, a product of the individual and respect to him alone" (p. 260). The illustrations (44) will satisfy even the most morbidly curious.

WINFRED OVERHOLSER, M.D.
SAINT ELIZABETHS HOSPITAL

The Social Psychology of Physical Disability. THE JOURNAL OF SOCIAL ISSUES, IV-4. Issue Editor: *Lee Myerson.* Fall 1948, pp. 115, 75 cents.

The Journal of Social Issues has devoted this entire number to the problems of physical disability considered from the social and psychologic viewpoint, wherein the major problems of the handicapped are believed to lie.

The physique is one of the principal raw materials underlying personality formation and clearly, when variations are of such pathologic degree that they are considered physical disability, they can have an enormous effect upon the individual's adjustment. For a disability by definition is considered to be a variation upon which ordinarily "a highly negative value" is placed,—by society, by the disabled individual, and because of the atypical physique itself.

The aims of this issue are: 1) to present some systematic testable theories of personality; 2) to suggest useful methodology, and 3) to derive practical social implications. There are three sections comprising, in all, 16 articles. The first section on cultural orientation shows from an anthropologic viewpoint the wide variation of status which different cultures accord persons with various physical handicaps, from that of pariah, through tolerance and laissez faire to honoring or even actual causing of disability—as for example, the sanctifying of the epileptic individual or the binding of feet in China. Nevertheless, bias against physical handicap is widespread and in our own culture it is apparent in caricatures and our popular stock of insults and indignities, as well as in the attitude of parents, associates, and employers and the general practice of treating the disabled as an outside, inferior, minority group. In other words, physical disability produces "social distance" which only a few succeed in bridging and to which many respond by withdrawal, bravado or by seeking out some other rejected minority.

In the second, "theoretical" section, the concept is developed of the crippling of the personality as a result of physical disability. Maladjustments are not in general related to the kind of physical handicap or to physical handicap *per se*, but, according to Barker, are of the same kind

as is to be found in any under-privileged minority group and result from frustration and conflict. In addition, there are the intrinsic limitations which the disability itself causes (Cruickshank). A clarificaton of the Adlerian theory of "organ inferiority" as the basis of maladjustment is offered in this connection (Dreikurs).

The final section, on specific problems, discusses special groups,—the blind, the deaf, the brain-damaged child and his body-image problems. The problems already discussed are here more narrowly applied. School and vocational adjustment are considered with differentiation of British and American plans of employment aid. The British have a system whereby each business employing over 20 persons must include 3% of the disabled (1944). Here such employment is as yet voluntary and we are reluctant to establish compulsion, but the great diminution of employment of the handicapped since the war makes some action imperative. Something analogous to the F.E.P.C. Act applied to the disabled is suggested as a partial solution.

In the past, discussion of the problems of the handicapped has too often been limited to the overt physical disability itself and psychologic maladjustment has frequently been considered to be narrowly bound to the specific handicap (as in the so-called "epileptic personality"). Recently there has been emerging a deeper, much more dynamic explanation of the psychologic difficulties which are now considered to have their origin, not so much in the physical disability itself, as in the attitudes of society and the resulting ambivalent self concept. This series of articles contributes notably to the development of such a concept. There is considerable repetition of the same or similar ideas but this is perhaps inevitable and shows that there is an area of increasing agreement. If an understanding of these basic ideas could be spread still more widely, gradual change in our culturally determined attitudes toward physical handicap would surely lessen the problems of adjustment now encountered by this group.

MARGARET IVES, PH. D.
SAINT ELIZABETHS HOSPITAL

Society and the Criminal. *Sir Norwood East, M.D., F.R.C.P., London,* 1949. H. M. Stationery Office. 315 pp., 10 shillings.

Probably the best known writer on forensic psychiatry in the British Isles has for many years been Doctor East. He has spent nearly all his professional life in the field, has served long as Commissioner of Prisons for England, and has been knighted for his outstanding work. The scope of his interest and outlook are suggested by some of the chapter headings of this collection of essays and addresses: Crime, Senescence and Senility; Physical Factors and Criminal Behavior; Society and the Criminal; Psychiatry and Degrees of Murder; Crime and Maturity; Medico-Legal Aspects of Alcoholism; Milestones of Penology.

Never an extremist, Sir Norwood has steadily pressed forward in the belief that psychiatry, though not possessed of all the answers, has much to offer to the study of the criminal and to dealing with him for the best

interests of the offender and society. He presents here the ripe results of a lifetime of consecration, and shows himself, as always, a conscientious student and social philosopher. Forensic psychiatry is vastly in his debt. His attitude is summed up well in his own words: "be enterprising, and avoid the ashes of desire; be zealous, and avoid the easy chair which fosters melancholy; be faithful to scientific standards, and earn the regard of your colleagues."

The volume is instructive and inspiring, and is recommended to all who are interested in the all-too-neglected field of criminology.

WINFRED OVERHOLSER, M.D.
SAINT ELIZABETHS HOSPITAL

Blakiston's New Gould Medical Dictionary. Phila. 1949, The Blakiston Company. 1294 pp., $8.50.

In these days of rapid expansion of medical terminology the appearance of a new medical dictionary is a welcomed event. For the present volume the adjective "new" is apt indeed. The editors, consisting of Col. Harold W. Jones, former librarian of the Army Medical Library, Dr. Norman L. Hoerr, Professor of Anatomy, Western Reserve University, and Professor Arthur Osol, Director of the Chemistry Department of the Philadelphia College of Pharmacy and Science, were assisted by an editorial board and 80 contributors, most of them members of the faculty of Western Reserve University. Indeed, this dictionary is essentially a university product, and one which redounds greatly to the credit of its academic sponsors. All fields of medicine and its allied sciences have been dealt with by outstanding experts—medical physics and chemistry, dentistry, pharmacy, veterinary medicine, zoology and botany, as well as legal medicine.

On account of the vast amount of material, brevity of definition has been employed, consistently however, with clarity of meaning. All entries, including eponyms, abbreviations, and biographic notes, are included in a single alphabetical list, thus avoiding the necessity of turning from section to section. All the plates (45 of them, about one half in color) are found together in one part of the book, and all the tables (pp. 1157-1294) appear together in an appendix. All of these and the various lists are clearly indexed so that any of them may be readily located. The pronunciations (except, unfortunately, of the proper names) are simply marked. Instead of the conventional phonetic equivalents, the editors use syllables employed in ordinary words—denidation, for example, is respelled "den-i-day-shun or dee-nigh-day-shun."

The typography is clear, with an effective use of bold-face type. The book is bound in limp covers, and sewn in such a way that it lies open readily, to whatever page the reader may turn. The editors and the publishers are to be congratulated on furnishing an authoritative lexicon in most convenient and attractive format.

WINFRED OVERHOLSER, M.D.
SAINT ELIZABETHS HOSPITAL

The Mentally Ill in America. *Albert Deutsch.* Second Edition, Columbia University Press. 537 pp., $5.50.

The first edition of this work, published in 1937, has stood the test of time as an outstanding history of the care and treatment of the mentally ill in America from colonial times. It is a "must" for every student of psychology, sociology and psychiatry from the layman to the professional.

In the second edition, revised and enlarged, Mr. Deutsch has added a new chapter entitled Psychiatry in World War II, has completely revised the chapter on Institutional Care and Treatment and has brought up to date the chapter on Mental Hygiene—otherwise the volume is essentially unchanged. The added material is well presented in clear, concise language quite up to the author's usual high standard. No personal or public library can be considered complete without a copy of this much-quoted volume—now presented with an attractive new cover.

ADDISON M. DUVAL, M.D.
SAINT ELIZABETHS HOSPITAL

Synopsis of Psychosomatic Diagnosis and Treatment. *Flanders Dunbar, M.D.* St. Louis., C.V. Mosby Co. 460 pp., $6.50.

The author's purpose is to present a guidebook, following the general outline of Osler's Principles and Practice of Medicine, which will give the general practitioner helpful information concerning newer methods of diagnosis and treatment of the patient as a total unit. The assistance of several collaborators, including members of the staff of the Departments of Medicine and Psychiatry, Columbia Presbyterian Medical Center, New York City, was utilized.

Each chapter is excellently documented through the use of an extensive bibliography at the end of the book containing four hundred thirty-two references. Throughout this book runs the central theme of interrelationship between soma and psyche now commonly referred to as the psychosomatic approach. Such concept takes into account not only predisposition to dysfunction but also the myriad events in the life history of the patient which have bearing on the particular way in which this particular patient responds in attempting his adjustment. Thus the author states that "the criterion of psychosomatic health is maintenance by the organism of homeostatic equilibrium within itself and within its environmental field."

It seems obvious that this synopsis, so packed with useful information that it almost bulges at the seams, will fill the need of the average physician who has been waiting for a clearly stated and easy to read presentation of the tenets of psycho-physiologic medicine.

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"A safe and effective drug to use in controlling weight gain  during pregnancy."

Coopersmith, B.L.: Dexedrine and Weight Control in Pregnancy, Am. J. Obst. & Gynec. (Oct.) 1949

Coopersmith reports the successful use of 'Dexedrine' Sulfate Tablets for weight control in a series of 100 obstetric patients. Because 'Dexedrine' curbed appetite and thus enabled these patients to follow their prescribed diets, control or reduction of weight was achieved in virtually all cases.  It is noteworthy that other methods, including the use of thyroid, had previously failed to prevent excessive weight gain in these same individuals. "Thyroid", Coopersmith states, "increases the appetite . . . and is toxic in many cases."  "Dexedrine Sulfate", the report concludes, "is a safe and effective drug to use in controlling weight gain during pregnancy."

Smith, Kline & French Laboratories, Philadelphia

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*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.